

# Exhibit 1

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**In Re FCA US LLC  
Monostable Electronic  
Gearshift Litigation**

**Project No. 1804638.000**

**Report of Douglas Young, Ph.D.  
and David Cades, Ph.D.**



*Failure Analysis Associates®*

**In Re FCA US LLC Monostable Electronic Gearshift  
Litigation  
Project No. 1804638.000**

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November 16, 2018

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[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
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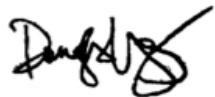
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## Introduction

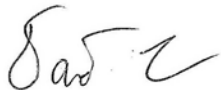
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We have been retained by Dykema Gossett PLLC to analyze and evaluate the human factors and human performance issues in the matter of *In Re FCA US LLC Monostable Electronic Gearshift Litigation*. To this end, we have reviewed and analyzed case-specific materials, analyzed the risk of gearshift-related accidents in the class vehicle models, conducted a driver behavior study involving several different gearshift selectors, and examined scientific findings related to human performance, driver behavior, consumer purchase behavior, human errors, and factors related to gearshifting behaviors. This report describes our findings to date.

The opinions presented herein are made to a reasonable degree of scientific certainty and are based on the information available to me at this time. We reserve the right to supplement or amend these opinions as more information becomes available.



Douglas Young, Ph.D.  
Principal Scientist



David M. Cades, Ph.D.  
Senior Managing Scientist

## Qualifications

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### Dr. Douglas Young

I earned a Ph.D., M.S., and B.S. in Kinesiology from the University of California, Los Angeles, and am currently employed as a Principal Scientist at Exponent in Los Angeles, California. In addition, I hold the position of Full Professor in the Department of Kinesiology at California State University, Long Beach, and have worked with the Veterans Affairs Medical Center and the Association of Scientific Advisors, Inc. I address issues related to human performance, human factors, biomechanics, and ergonomics in accidents and safety. I have experience in the analysis of human movement control, coordination, injury assessment, and accident patterns. I also have studied and analyzed issues related to reaction time, vision, and the control and operation of vehicles and machinery. I have evaluated the effectiveness of warnings and safety information, operation of controls, as well as human error and its determinants—movement control, information processing, perception, memory, attention, stress, and training. Exponent is currently compensated \$510.00 per hour for my evaluation, analysis, and testimony in this case. A copy of my most current curriculum vitae, which lists my publications and testimony over the last four years, is attached as Appendix A.

### Dr. David Cades

I received a B.S. in engineering psychology from and performed Honors research in engineering psychology and human factors at Tufts University. I hold a Masters and Ph.D. in psychology from the Human Factors and Applied Cognition Program at George Mason University. I am a Senior Managing Scientist at Exponent and a member of the Human Factors Practice, where I regularly address how the capabilities and limitations of people interact with the products, equipment, and systems in their environment, and how this interaction affects safety. My work routinely relates to the analysis and evaluation of human behavior and performance, including issues as to visibility, perception-reaction, the science of risk communication and warnings, attention and control, nighttime and low light perception and vision, and accident avoidance. I have investigated safety issues related to the interaction between human perception, behavior, and environmental conditions. I am actively engaged in research relating to human perception, cognition, and behavior as well as driver behavior. I have published papers and presented at conferences related to human factors issues, including vehicle operator behavior, perceptual information processing, and the effects of interruptions and distractions on performance. I have performed user experience and usability evaluations throughout my career. I am a member of the Human Factors and Ergonomics Society and the Society of Automotive Engineering. I am also a Certified English XL Tribometrist (CXLTL). Exponent is currently compensated \$315.00 per hour for my evaluation, analysis, and testimony in this case. A copy of my most current curriculum vitae, which lists my publications and testimony over the last four years, is attached as Appendix B.

## List of Case Materials Reviewed

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We have received and reviewed the following case-specific materials:

- Complaint
- Plaintiffs' Productions
- FCA Productions
  - 3/3/2016 Electronic Meeting Documents
    - Letter from FCA to NHTSA [MCPS000001-MCPS000003]
    - Certificate in Support of Requests for Confidentiality [MCPS000004]
    - Memorandum from Stephen McHenry [MCPS000005]
    - 2015 MY Jeep Grand Cherokee – NHTSA Alaska Vehicle Presentation – confidential version [MCPS000006-MCPS000024]
    - 2015 MY Jeep Grand Cherokee – NHTSA Alaska Vehicle Presentation – public version [MCPS000026-MCPS000044]
  - 04/20/2016 Meeting
    - 2014-2015 MY Grand Cherokee Roll Away Presentation [MCPS000046-MCPS000075]
  - 05/06/2016 Responses with Enclosures 1-11 [MCPS000076-MCPS0011945]
    - Enclosure 4: Other Incidents [MCPS0011493- MCPS0011570]
  - ODI Resumes [MCPS0011946- MCPS0011957]
  - Other Correspondence [MCPS0011958-MCPS012328]
    - Dealer-Fleet Communications
    - Owner Communications
    - Part 573 Reports
    - Quarterly Reports
    - Recall Acknowledgment
    - Recall No. S27 Documents
  - 02/12/2016 Test Report Documents [MCPS012329-MCPS012344]
  - 03/31/2016 Test Report Documents [MCPS012345-MCPS012358]
  - 09/15/2015 Technical Review Documents [MCPS012359-MCPS012378]
    - 2014-2015 MY WK Monostable Shifter – Park Engagement, Disengagement and Fail Safe Strategy Presentation, 09/15/2015 [MCPS012363- MCPS012377]
  - 09/23/2015 Technical Review Documents [MCPS012393-MCPS012416]
    - 2014-2015 MY WK Monostable Shifter – Park Engagement, Disengagement and Fail Safe Strategy Presentation, 09/24/2015 [MCPS012398-MCPS012415]
  - 11/24/2015 Responses with Enclosures 1-14 [MCPS012434-MCPS019371]
    - Enclosure 4: Other Incidents [MCPS016542-MCPS016653]
  - VRC Agenda & Meeting Minutes [MCPS019372-MCPS019385]
  - RFP 2 – FMVSS (2012-2015) [MCPS019386-MCPS021381]
  - RFP 2 – Purchase Orders [MCPS019382- MCPS021478]
  - RFP 2 – Drawings of Shifter [MCPS021479-MCPS021484]
  - RFP 2 – Standards [MCPS021485-MCPS026268]



- RFP 3 – Lawsuit Claim and Backup Materials (Photographs of vehicles) [MCPS026269- MCPS032095]
- RFP 3 – Lawsuit and Claim Lists [MCPS032096-MCPS032105]
- Monroney Labels [MCPS032106-MCPS032152]
- Service Manual Excerpts
  - 2012 Chrysler 300 [MCPS032153-MCPS032165]
  - 2012 Dodge Charger [MCPS032166-MCPS032178]
  - 2013 Chrysler 300 [MCPS032179-MCPS032191]
  - 2013 Dodge Charger [MCPS032192-MCPS032204]
  - 2014 Chrysler 300 [MCPS032205-MCPS032217]
  - 2014 Dodge Charger [MCPS032218-MCPS032230]
  - 2014 Jeep Grand Cherokee [MCPS032231-MCPS032242]
  - 2015 Jeep Grand Cherokee [MCPS032243-MCPS032254]
- Tip Cards
  - 2014 MY Glovebox Tip Cards [MCPS032255-MCPS032272]
  - Mailed with Interim Owner Notification Letter [MCPS032273-MCPS032274]
  - Provided by Dealer at Time of Repair [MCPS032275-MCPS032276]
- Plaintiff Vehicle Records [MCPS032277-MCPS034089]
- RFP 3 – Lawsuit and Claim Backup Materials [MCPS034090-MCPS034283]
- RFP 4 – Glove Box Materials
  - 2012 Owner’s Rights Under State Lemon Laws [MCPS034284-MCPS034315]
  - 2013 Owner’s Rights Under State Lemon Laws [MCPS034316-MCPS034379]
  - 2014 Supplements [MCPS034380-MCPS035337]
  - 2015 Owner’s Rights Under State Lemon Laws [MCPS035338-MCPS035369]
  - Chrysler 300 User Guides [MCPS035370-MCPS035741]
  - Dodge Charger User Guides [MCPS035742-MCPS036133]
  - Jeep Grand Cherokee User Guides [MCPS036134-MCPS036597]
- RFP 4 – Sales Brochures
  - Chrysler 300 Sales Brochures [MCPS036598-MCPS036732]
  - Dodge Charger Sales Brochures [MCPS036733-MCPS036826]
  - Jeep Grand Cherokee Sales Brochures [MCPS036827-MCPS036876]
- RFP 3 – CAIR Documentation [MCPS038006-MCPS091817]
- RFP 4 – Print Ads
  - 2012 Chrysler 300 [MCPS094176-MCPS094177]
  - 2012 Dodge Charger [MCPS094178-MCPS094179]
  - 2013 Dodge Charger [MCPS094180-MCPS094186]
  - 2014 Chrysler 300 [MCPS094187-MCPS094188]
  - 2014 Dodge Charger [MCPS094189-MCPS094197]
  - 2014 Jeep Grand Cherokee [MCPS094198-MCPS094204]
  - 2015 Jeep Grand Cherokee [MCPS094205-MCPS094209]
- Custodian Organizational Charts [MCPS094210-MCPS094245]
- AMPS Process Sheets and EMASS [MCPS094246-MCPS094390]

- Email ESI Documents [MCPS094391-MCPS096055]
- 9<sup>th</sup> Production [MCPS096056-MCPS165515]
- 10<sup>th</sup> Production [MCPS165516-MCPS194693]
- 11<sup>th</sup> Production [MCPS194694-MCPS200003]
- Depositions
  - Plaintiffs
    - Andollo, Justine, 01/30/2018, with Exhibits
    - Berken, Corin, 04/13/2018, with Exhibits
    - Brooks, Taylor, 06/29/2017, with Exhibits
    - Colrick, Clare, 03/28/2018, with Exhibits
    - Dial, Krystal, 11/16/2017, with Exhibits
    - Falker, Debra, 01/29/2018, with Exhibits
    - Fisher, Todd, 11/30/2017, with Exhibits
    - Foreman, Kelli, 11/21/2017, with Exhibits
    - Goldsmith, David, 05/11/2018, with Exhibits
    - Guy, Jeffrey, 03/27/2018, with Exhibits
    - Hackett, Danielle, 05/22/2018, with Exhibits
    - Hackett, Joby, 05/22/2018, with Exhibits
    - Hughes, Marc, MISSING TRANSCRIPT, with Exhibits
    - Lynd, John, 06/21/2017, with Exhibits
    - Machtley, Todd, 10/25/2017, with Exhibits
    - Mack, Janella, 07/25/2017, with Exhibits
    - Magnuson, Ann, 10/24/2017, with Exhibits
    - Marble, Trevor, 11/17/2017, with Exhibits
    - Marrero Bernal, Eliam, 12/19/2017, with Exhibits
    - McDonald, Kean, 05/21/2018, with Exhibits
    - Metzger, John, 03/06/2018, with Exhibits
    - Metzger, Mary, 03/06/2018, with Exhibits
    - Nathan, Michael Vincent, 05/01/2017, with Exhibits
    - Perkins, Casey, 05/01/2018, with Exhibits
    - Phelps, Cameron, 11/29/2017, with Exhibits
    - Pietri, Pascual (failed to appear)
    - Schultz, Charles, 01/31/2018, with Exhibits
    - Scott, Melvin, 04/25/2018, with Exhibits
    - Stedman, Karen, 02/13/2018, with Exhibits
    - Stewart, Dustin, 04/24/2018, with Exhibits
    - Vosburgh, Bruce, 02/01/2018, with Exhibits
    - Webster, Cameron, 02/12/2018, with Exhibits
    - Wells, Lindsay, 04/26/2018, with Exhibits
    - Youngstrom, Scott, 03/12/2018, with Exhibits

Received 07/13/2018

- Gillespie, Ashley (TX)
  - Glovebox Materials
  - Interrogatory Responses and Verifications

- Produced Documents
  - RFP Responses
  - Third Party Subpoena Records
  - Vehicle Records
  - Warranty
  - Notice of Video Deposition
- Hyatt, Robert F. IV (TX)
  - Glovebox Materials
  - Interrogatory Responses and Verifications
  - Produced Documents
  - RFP Responses
  - Third Party Subpoena Records
  - Vehicle Records
  - Warranty
  - Notice of Video Deposition
  - 2014 Jeep Grand Cherokee Hangtag
- Waggoner, Jay (TX)
  - Chrysler Hangtag
  - Chrysler Quick Reference Information to Engage Park
  - Interrogatory Responses and Verifications
  - Produced Documents
  - RFP Responses
  - Third Party Subpoena Records
  - Vehicle Records
  - Warranty
  - Notice of Video Deposition
  - Notice of Deposition
  - Amended Notice of Deposition
  - Second Amended Notice of Deposition
- Willis, Erica (GA)
  - Hangtag
  - Interrogatory Responses and Verifications
  - Notice of Claim Letter 12/23/2016
  - Produced Documents
  - Chrysler Quick Reference Information to Engage Park
  - Third Party Subpoena Records
  - Vehicle Records
  - Warranty

Received 10/04/2018

- Additional FCA Productions
  - Wolverine Solutions Group Documents [MCPS200004-MCPS200542]
  - Class Vehicle Code Guides [MCPS200597-MCPS200821]
  - Changes Notices [MCPS200543-MCPS200593]

- Forever Requirement Summary [MCPS200594-MCPS200596]
  - Recall S27 Documents [MCPS200822-MCPS200875]
- Additional Plaintiff Productions
  - Colrick Documents [PL-COLRICK-000070-PL-COLRICK-000073]
  - Dial Documents [PL-DIAL-000025]
  - Fisher Documents [PL-FISHER-000017-PL-000020]
  - Goldsmith Documents [PL-GOLDSMITH-000010-000012]
  - Hartt Documents [PL-HARTT-000047]
  - Hyatt Documents [PL-HYATT-000030-PL-HYATT-000033]
  - Matchley Documents [PL-MACHTLEY-000051-000060]
  - Metzger Documents [PL-METZGER-000153-000157]
  - Perkins Documents [PL-PERKINS-000184]
- Depositions
  - Plaintiffs
    - Craig, C. Chris-Ann, 06/19/2018, with Exhibits
    - Gillispie, Ashley, 07/24/2018, with Exhibits
    - Goldsmith, David, 05/11/2018, with Exhibits (*repeat*)
    - Gunnells, Jacob Franklin, 06/05/2018, with Exhibits
    - Hartt, Bernadine, 06/07/2018, with Exhibits
    - Havnen, Pamela, 06/05/2018, with Exhibits
    - Hughes, Marc Robert Ware, 05/31/2018, with Exhibits
    - Hyatt, Robert, IV, 07/23/2018, with Exhibits
    - Waggoner, Jay, 07/26/2018, with Exhibits
    - Yacoub, Wasim, 06/27/2018, with Exhibits
- [REDACTED]
- Vehicle Inspection Reports
  - Colrick, Clare
  - Fisher, Todd
  - Goldsmith, David
  - Gunnells, Jacob
  - Hackett, Danielle
  - Lynd, John
  - Magnuson, Ann
  - Marble, Trevor
  - McDonald, Kean
  - Metzger, John and Mary
  - Perkins, Casey
  - Phelps, Cameron
  - Schultz, Charles
  - Stedman, Karen
  - Webster, Cameron
  - Youngstrom, Scott

Received 10/16/18

- Presentation Slides
  - 16V-240/ S27: Transmission Electronic Shift Level (3 pages) [MCPS095732]
  - 2012 LX/LD Electronic Shifter Assessment, April 2009 (40 pages) [MCPS096128]
  - 2012 LX/LD Electronic Shifter Assessments (20 pages) [MCPS094408]
  - 2012 LD/LX Electronic Shifter IDD P786 (73 pages) [MCPS096143]
  - Cygnus Transmission Program Electronic Shifter (e-shift) Decision (25 pages) [MCPS096108]
  - Electronic Shifter Assessment Draft, April 2009 (9 pages) [MCPS096137]
  - Monostable Shifter Weekly Enabler Update #6 Draft, 06/09/16 (26 pages) [MCPS094774]
  - Monostable Shifter Weekly Enabler Update #7, 06/16/16 (18 pages) [MCPS095999]
  - NHTSA Investigation Status, June Consent Order Meeting, 06/23/16 (28 pages) [MCPS115483]
  - NHTSA Issued PE15-030/EA16-002, Related Field Actions S27/S49/S50, Related DAPIS Investigation #960, 09/17/16 (25 pages) [MCPS164305]
  - PE15-030 2014-2015 MY Grand Cherokee Roll Away, 03/17/16 (29 pages) [MCPS181749]
  - Proposed messages for 2012 LD/LX e-Shift, 08/13/16 (7 pages) [MCPS096136]
  - S49/S50: Transmission Electronic Shift Level (Global) (3 pages) [MCPS095731]
  - Vehicle Regulations Committee, 04/19/16 (17 pages) [MCPS179733]
  - Vehicle Safety & Regulatory Compliance (4 pages) [MCPS094236]
- Consumer Documents
  - Auto Park guide [MCPS100410-MCPS100411]
  - Electronic Shifter Quick Reference Information to Engage Park (P), 05/14/16 [MCPS100408]
  - Jeep Electronic Shifter Quick Reference Information to Engage Park (P), 05/14/16 [MCPS100409]
- Emails
  - 2009 [MCPS157993-995, MCPS158130-131, MCPS155391-394]
  - 2010 [MCPS098282, MCPS098289, MCPS162551]
  - 2011 [MCPS139876, MCPS139800]
  - 2016 [MCPS098974-975, MCPS142011-014, MCPS094767-770, MCPS095996-997, MCPS115482, MCPS179720-721, MCPS100407, MCPS165987, MCPS099183-186, MCPS181182-186, MCPS095403-406, MCPS095414, MCPS095396-397, MCPS095779, MCPS100972, MCPS100975, MCPS100971, MCPS100967-969, MCPS095727-728, MCPS095723-724]
  - 2017 [MCPS101059-060]
- Excel spreadsheets [MCPS094409, MCPS095413, MCPS095415, MCPS095729-MCPS095730, MCPS095780-MCPS095781, MCPS096018, MCPS096107, MCPS100973-MCPS100974, MCPS100976-MCPS100977, MCPS122426, MCPS132457, MCPS133639, MCPS139801, MCPS139876, MCPS146140, MCPS150362, MCPS155398, MCPS162512, MCPS162605, MCPS164895]

- 16V-240/ S27 Auto Park Feature youtube link [MCPS100412]
- 2016 CY VRC Agenda Items – Recall Scope Expansions [MCPS101062]
- Agenda, Vehicle Regulations Committee Meeting No. 422, 04/19/16 [MCPS179722-MCPS179732]
- CAIR Data, WK and LD/LX, 04/19/16 [MCPS095399]
- FCA US LLC Chronology, Monostable Gear Selector [MCPS179750- MCPS179751]
- Field Reports, 04/19/16 [MCPS095400]
- Field Reports Summary [MCPS165988]
- Graphics of shifter displays [MCPS155396- MCPS155397]
- Logos and graphics [MCPS095402, MCPS095726, MCPS099187, MCPS100970, MCPS101061, MCPS155395, MCPS157996- MCPS157997, MCPS158132]
- Mailing Campaigns—In Process, Upcoming Targets [MCPS095725]
- Model Year Family Distribution Tables [MCPS095407-MCPS095408, MCPS095410, MCPS095412]
- Category selection screens [MCPS095409, MCPS095411]
- Current Timing Summary [MCPS095998]
- S27 Monostable Shifter 6/07 to 6/08 progress [MCPS094773]
- Field Reports table and graph [MCPS165989- MCPS166005]
- VOQ Cumulative, WK, LD & LX, 04/19/16 [MCPS095401]
- W&L Family Shifter (Daily Update for Items S27), 06/08/16 [MCPS094771]
- W Family Shifter (Daily Update for Items S28)
- Supplemental vehicle inspection reports and associated files
  - Dial EC248396
  - Gillespie FC829234
  - Hartt EC485928
  - Havnen FC665131
  - Hughes EH194579
  - Hyatt FC614581
  - Machtely FC705200
  - Nathan, Mike CHRY-0017 EC240007 Full Package

Received 10/31/2018

- Depositions
  - Bielenda, Jim, 10/24/2018, with Exhibits
  - Tenbrink, Jay, 10/25/2018, with Exhibits
- Expert Work Product
  - Hastings, Justine
  - Rosenberg, Craig

Received 11/2018

- Monostable Equipped Vehicle Table
- Plaintiffs' Response to FCA's 12(b)(6) Partial Motion to Dismiss Second Amended Complaint (ECF No. 200)

## Understanding of Plaintiffs' Allegations

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In a class action brought against FCA US LLC, 44 plaintiffs seek to represent a putative class that includes individuals who purchased, leased, or own an FCA-manufactured vehicle in the United States that was equipped with a monostable electronic gearshift.<sup>1</sup> The vehicles identified include the 2012-2014 Chrysler 300, 2012-2014 Dodge Charger, and 2014-2015 Jeep Grand Cherokee vehicles with a monostable gearshift.<sup>2</sup>

Based on the Second Amended Complaint, Plaintiffs allege that their FCA vehicles are equipped with a defectively designed monostable electronic gearshift.<sup>3</sup> They allege the design of the monostable gearshift “is dangerously defective because of the lack of a physical gear position that would clearly notify drivers regarding which gear their vehicle is in, *and* the lack of a safety override function that would automatically put the vehicle in Park or engage a parking brake when a driver attempts to exit the vehicle when it is not in Park.”<sup>4</sup> Plaintiffs further claim that these monostable gearshifts are dangerous and can cause accidents and vehicle rollaway accidents if drivers exit the vehicle when the vehicle is not in Park.<sup>5</sup> Plaintiffs claim FCA knowingly failed to disclose and/or concealed the allegedly defective monostable gearshift in order to increase profits.<sup>6</sup> Plaintiffs claim that they would have paid less or would not have purchased or leased a class vehicle had they known about this alleged defect.<sup>7</sup> Plaintiffs further allege that FCA’s S27 recall is ineffective, and that many individuals who received the repair continued to experience rollaway incidents.<sup>8</sup>

In subsequent briefing filed with the Court, Plaintiffs asserted that:

*FCA’s monostable shifter (the “Defective Shifter”) is unreasonably dangerous because it does not adequately alert drivers to the selected gear and it fails to engage and stay in Park, causing cars to roll away. FCA concealed this dangerous defect and represented that the cars were safe, reliable, and protected by a warranty. As alleged in the SACMC, the Defective Shifter has led to hundreds of rollaways, and at least one death. Moreover, FCA’s claimed fix does not work: drivers have reported unintended gear shifts and vehicle rollaways after the implementation of FCA’s software update.*<sup>9</sup>

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<sup>1</sup> Complaint, p. 6

<sup>2</sup> *Ibid.*

<sup>3</sup> Complaint, pp. 6, 7

<sup>4</sup> Complaint, p. 7.

<sup>5</sup> Complaint, pp. 7-8

<sup>6</sup> Complaint, p. 77

<sup>7</sup> Complaint, p. 59

<sup>8</sup> Complaint, pp. 108-109

<sup>9</sup> Plaintiffs’ Response to FCA’s 12(b)(6) Partial Motion to Dismiss Second Amended Complaint (ECF No. 200), p. 1.



Finally, according to Plaintiffs' expert, Dr. Rosenberg, the Monostable electronic shifter is "defective from a human factors point of view" because it is

*unintuitive, difficult to operate, and does not provide adequate tactile or visual feedback. As such, drivers are likely to have excessive unintended gear selection errors, spend more time shifting, and allocate more attention to verify that they are in their intended gear. This has serious safety implications, as unintended gear selection errors can result in vehicle rollaways that can be dangerous to the driver, passengers, and other nearby people and property. Additionally, the increased attention required to shift gears can reduce attention away from the roadway and result in reduced situational awareness.*<sup>10</sup>

## Human Factors Design History and Recall

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### Design History

**300 and Charger.** According to FCA documentation and testimony of FCA corporate representative Mr. Jim Bielenda, the incorporation of an electronic transmission into the class vehicles, for reasons related to fuel economy and improved emissions,<sup>11</sup> required that FCA also incorporate an e-shifter.<sup>12</sup> Beginning as early as 2007 or 2008, and culminating in early 2009, FCA implemented a Design for Six Sigma (DFSS) project for gearshifts,<sup>13</sup> denoted P786.<sup>14</sup> The DFSS project looked at what competitors and suppliers were doing at that time, as well as what was being designed for the future.<sup>15</sup> Around 2009, no domestic manufacturers were using an electronic transmission and gearshift; however, some foreign manufacturers, such as BMW, Jaguar, Audi, and Toyota, had monostable e-shifter concepts out on the market.<sup>16</sup> In their investigation of current industry practices, FCA determined that the types of e-shifter technologies in use at the time included Push Button (consisting of an arrangement of buttons, one for each gear, located on the center stack or center console), Steering Column (consisting of a lever located on the steering column), Monostable (located on the floor console, instrument panel (IP), or center stack), and Rotary (consisting of a knob or dial in the center floor console).<sup>17</sup> FCA documentation notes that, at this time, e-shifters were migrating from high-end vehicles to becoming commonplace.<sup>18</sup>

Because the class vehicles represented, at the time, the first implementation of an electronic transmission and gearshift on the domestic market,<sup>19</sup> a complimentary aspect of the DFSS project

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<sup>10</sup> Rosenberg Report, p. i.

<sup>11</sup> Deposition of Jim Bielenda 10/24/2018 (J. Bielenda), pp. 83, 84, 132

<sup>12</sup> J. Bielenda, pp. 83, 86

<sup>13</sup> J. Bielenda, pp. 35-36

<sup>14</sup> 2012 LD/LX Electronic Shifters 1DD P786, undated, MCPS096143 (Undated P786 Presentation), p. 1

<sup>15</sup> J. Bielenda, pp. 86-87, 110

<sup>16</sup> J. Bielenda, pp. 87, 110-111, 291; J. Bielenda (Exhibit 3), p. 3

<sup>17</sup> J. Bielenda, pp. 291-292; 2012 LD/LX Electronic Shifter Assessment, dated April 2009, MCPS096143 (April 2009 Shifter Assessment Presentation), pp. 29-31

<sup>18</sup> J. Bielenda (Exhibit 3), p. 4

<sup>19</sup> J. Bielenda, p. 291



for gearshifts was a series of focus groups, surveys, and user studies (“clinics”) that were conducted through July of 2009. Early focus groups indicated strong preferences for the gearshift to continue to be located on the floor center console.<sup>20</sup> An early clinic, which took place in March of 2009, evaluated five shifter technologies: Conventional Gated, Rotary, Monostable, (Poly)Stable, and Touch Screen. The Monostable gearshift tested in this clinic differed from the design that was ultimately implemented in the class vehicles in a number of ways, including its H-shaped PRNDL pattern and lack of a display showing the engaged gear on the knob.<sup>21</sup> The March 2009 clinic investigated the preferences of participants operating the gearshifts in a driving simulator.<sup>22</sup> FCA documentation indicates that the overall preference was for the traditional, familiar Conventional Gated gearshift; however, suppliers at the time were unable to provide such a gearshift that would be compatible with the electronic transmission.<sup>23</sup> FCA also investigated the possibility of implementing a version of the (Poly)Stable design that incorporated liked features of the Conventional Gated; however, again, suppliers were unable to provide this type of gearshift because they didn’t have the required technology and/or were unable to meet the 2012 timing for the Chrysler 300 and Dodge Charger.<sup>24</sup> Citing an inability to design an execution of the Rotary and Push Button gearshifts that improved upon their usability scores, FCA opted to investigate improving the usability of a monostable gearshift.<sup>25</sup> Subsequent 2009 clinics investigated, among other issues, preferences for the Toyota Prius and BMW 550i monostable gearshift designs (March)<sup>26</sup> and preferences for different PRNDL patterns on a monostable gearshift (June, July).<sup>27</sup> The DFSS project ultimately recommended a monostable design that included a linear PRNDL alignment, a D-N-R pattern (requiring a forward movement of the gearshift for Drive and a rearward movement for Reverse), a Park button on the shift knob, and an interactive display.<sup>28</sup>

According to Mr. Bielenda, FCA determined that swapping the locations of Drive and Reverse in the D-N-R pattern was not something they wanted to take on.<sup>29</sup> By March of 2010, FCA had opted to continue their consideration of the monostable gearshift with an R-N-D pattern (requiring a forward movement for Reverse and a rearward movement for Drive).<sup>30</sup>

<sup>31</sup> In August of 2010, in consideration of the results of the clinics and dislike of the Park button incorporated by the BMW-styled gearshift, FCA made the decision to explore a rotary gearshift

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<sup>20</sup> J. Bielenda, p. 140; Undated P786 Presentation, pp. 31, 33, 34

<sup>21</sup> Undated P786 Presentation, p. 10

<sup>22</sup> Undated P786 Presentation, pp. 9-10

<sup>23</sup> Undated P786 Presentation, p. 10

<sup>24</sup> J. Bielenda, p. 296; J. Bielenda Exhibit 5, p. 3; April 2009 Shifter Assessment Presentation, p. 13

<sup>25</sup> April 2009 Shifter Assessment Presentation, p. 13

<sup>26</sup> Undated P786 Presentation, p. 11

<sup>27</sup> Undated P786 Presentation, pp. 14, 19

<sup>28</sup> J. Bielenda, pp. 114, 115; J. Bielenda (Exhibit 3), p. 12; J. Bielenda (Exhibit 24), p. 1; Undated P786 Presentation, p. 22

<sup>29</sup> J. Bielenda, p. 90

<sup>30</sup> J. Bielenda (Exhibit 24), p. 2

<sup>31</sup> J. Bielenda, pp. 141, 142; J. Bielenda (Exhibit 6), pp. 1, 6; J. Bielenda (Exhibit 18), p. 38

akin to the Jaguar XF-R gearshift, as well as a linear monostable gearshift akin to the Audi A8 gearshift.<sup>32</sup>

In September of 2010, a clinic involving 120 participants evaluated the preferences and performance of six gearshift concepts with naïve users in: the Jaguar Rotary gearshift on the lower center console (LCC), a prototype Push Button on the IP, the Prius Monostable on the LCC, the Mercedes Monostable on the steering column, and two Kostal monostable gearshifts, both on the LCC. The Kostal Concept B Monostable incorporated a Park button at the top of the gearshift knob, while the Kostal Concept C Monostable incorporated a Park button at the bottom.<sup>33</sup> In October of 2010, the FCA product committee met and formally agreed to discontinue work on the Kostal monostable gearshift.<sup>34</sup> This decision was based on all the information and studies that FCA had gathered,<sup>35</sup> including its similarity to the BMW-style gearshift, which wasn't liked,<sup>36</sup> and usability issues associated with the separate Park button.<sup>37</sup> At that time, FCA intended to pursue a Kostal-supplied rotary knob (in use by Jaguar) for the Chrysler 300<sup>38</sup> and a different monostable for the Dodge Charger.<sup>39</sup> By November of 2010, FCA had determined they were unable to continue pursuing the Kostal rotary gearshift due to intellectual property issues with Jaguar.<sup>40</sup>

In December of 2010, the decision for the Chrysler 300 and Dodge Charger was made to move forward with the ZF-supplied monostable gearshift design, which was already used in the Audi A8.<sup>41</sup> At a product committee meeting that month, launch timing of the e-Shifter was proposed as (1) production engineering of 20 vehicles on July 25, 2011 and (2) volume production on August 12, 2011.<sup>42</sup> The decision to implement the ZF-supplied monostable gearshift was based, in part, on aspects of the monostable gearshift designs that were and weren't liked in the clinics.<sup>43</sup> According to Mr. Bielenda, FCA's understanding was that the Audi A8 monostable required that the user learn how to get the selector into Park, but that this was learned very fast.<sup>44</sup> Documents indicate FCA's intention, at that time, to further evaluate the detent plate and springs to minimize the amount of shifting errors among the Drive, Reverse, and Neutral gears.<sup>45</sup> Mr. Bielenda testified that FCA did, in fact, request ZF to make changes to the detents sometime after December 2010 and before the 2012 300 and Charger went into production.<sup>46</sup> Consistent with this testimony, a

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<sup>32</sup> J. Bielenda, pp. 146, 152-153, 154; Chernoby 08/31/10 email, MCPS162551

<sup>33</sup> J. Bielenda, pp. 173-174; J. Bielenda (Exhibit 9), p. 8; J. Bielenda (Exhibit 18), p. 38

<sup>34</sup> J. Bielenda (Exhibit 8), p. 4

<sup>35</sup> J. Bielenda, p. 156

<sup>36</sup> J. Bielenda, pp. 156-157

<sup>37</sup> J. Bielenda, pp. 156-158

<sup>38</sup> J. Bielenda, pp. 156-157

<sup>39</sup> J. Bielenda, p. 177

<sup>40</sup> J. Bielenda, p. 177; J. Bielenda (Exhibit 12), p. 1; J. Bielenda (Exhibit 24), p. 2

<sup>41</sup> J. Bielenda, pp. 96, 146, 151, 189-190

<sup>42</sup> J. Bielenda, p. 192; J. Bielenda (Exhibit 14), p. 1

<sup>43</sup> J. Bielenda, pp. 191-192

<sup>44</sup> J. Bielenda, pp. 165, 193

<sup>45</sup> J. Bielenda, p. 194; J. Bielenda (Exhibit 15), p. 12

<sup>46</sup> J. Bielenda, pp. 192, 231

subsequent clinic in January of 2011 evaluated different detent and spring configurations on the product intent design.<sup>47</sup>

Per emails exchanged between July 26 and 31, 2011, an employee who provided feedback as part of FCA's fast-feedback program—in which early production vehicles are given to internal employees for the purposes of quality checking and feedback<sup>48</sup>—reported awkward shifting in a 2012 Charger with the subject monostable gearshift.<sup>49</sup> Mr. Bielenda testified that FCA investigated the issue, including meeting with the employee and evaluating the fast-feedback vehicle, and that the employee's issues with the gearshift did not continue once he learned how to use it.<sup>50</sup> FCA did not identify any defects or problems with the gearshift as a result of its investigation.<sup>51</sup> In August of 2011, production began on the 2012 Chrysler 300 and Dodge Charger.<sup>52</sup> On August 13-14, 2011, a clinic was conducted on production vehicles, evaluating four gearshifts: the Dodge Charger (e-shifter), Chrysler 300 (mechanical gearshift), BMW 535i, and the Audi A8.<sup>53</sup>

**Grand Cherokee.** The decision to implement the ZF-supplied monostable gearshift in the 2014 Grand Cherokee was reportedly made sometime around February 2011.<sup>54</sup>

[REDACTED]

Production of the 2014 Grand Cherokee began in July of 2013.<sup>57</sup>

### Recall

On August 20, 2015, the National Highway Traffic Safety Administrations (NHTSA)'s Office of Defects Investigation (ODI) opened preliminary evaluation PE 15-030 following receipt of 14 Vehicle Owner's Questionnaires (VOQs) alleging rollaway incidents, as well as related Early Warning Report (EWR) field report data, in the 2014-2015 Jeep Grand Cherokee. Generally, the complaints alleged that the vehicles rolled away after having been placed in Park, and that these

<sup>47</sup> J. Bielenda (Exhibit 18), p. 38

<sup>48</sup> J. Bielenda, pp. 170-171

<sup>49</sup> J. Bielenda, pp. 206-208; J. Bielenda (Exhibit 16)

<sup>50</sup> J. Bielenda, pp. 316-317

<sup>51</sup> J. Bielenda, p. 317

<sup>52</sup> J. Bielenda, pp. 65, 96, 151

<sup>53</sup> J. Bielenda (Exhibit 18), pp. 21, 39

<sup>54</sup> J. Bielenda, p. 100

<sup>55</sup> J. Bielenda, pp. 245-246; J. Bielenda (Exhibit 18), pp. 2-5, 40

<sup>56</sup> J. Bielenda (Exhibit 18), p. 6-7; J. Bielenda, p. 250

<sup>57</sup> J. Bielenda, p. 100

incidents occurred with both the engine off and the engine running. They comprised five crashes and three injury incidents.<sup>58</sup>

On February 3-5, 2016, NHTSA's ODI upgraded PE 15-030 to an engineering analysis (EA 16-002), which further encompassed the 2012-2014 Dodge Charger and 2012-2014 Chrysler 300 with 3.6L engine.<sup>59</sup> The opening of EA 16-002 followed receipt of 314 complaints of alleged rollaway incidents (306 associated with the Grand Cherokee and 8 associated with the 300 and Charger) and 325 other complaints reporting difficulty shifting into Park. The rollaway complaints encompassed 121 crashes and 30 injury incidents associated with 30 injuries.<sup>60</sup> While ODI noted the presence of multiple indicators of the selected gear and cues as to the transmission's status should drivers open the door or attempt to turn off the engine while still in Park, it also asserted that the available functions do not protect drivers who intentionally leave the engine running or drivers who do not recognize that the engine remains running after trying to shut it off.<sup>61</sup> It further noted that NHTSA testing indicated that the operation of the subject gearshift is "not intuitive and provides poor tactile and visual feedback to the driver."<sup>62</sup>

As part of NHTSA Recall 16V-240 (FCA Recall S27), dated April 22, 2016, FCA indicated that the existing strategies built into the subject vehicles to deter drivers from exiting after failing to shift into Park have not stopped some drivers from doing so.<sup>63</sup> On May 14, 2016, FCA sent an interim notification letter to owners describing the potential for rollaways (i.e., unwanted vehicle movement can occur if the vehicle is left running, without the parking brake engaged, and not in Park upon exiting), and advised owners to always perform a visual check to ensure that the vehicle is in Park using the EVIC, or shift lever knob and apply the parking brake before exiting.<sup>64</sup> Enclosed with the letter was an a quick reference card regarding the e-shifter, which included detailed information about safe parking procedures and graphics depicting the EVIC, gearshift and parking brake.<sup>65</sup>

On June 24, 2016, FCA began mailing letters to customers notifying them that the recall remedy was available.<sup>66</sup> The recall remedy provided "Auto Park" shift countermeasures for three primary situations in which the vehicle is unintentionally left in Park. In the first two, the driver believes they put the vehicle into Park and then either (a) attempts to shut off the vehicle and exits without realizing that the vehicle is still running or (b) intentionally leaves the vehicle running and exits the vehicle. As a remedy to the first scenario if the vehicle speed is 1.2 mph or less and the ignition On/Off button is pressed when the vehicle is not in Park, the vehicle will automatically shift into Park. As a remedy for the second scenario, if the vehicle speed is 1.2 mph or less, the driver's seat belt is unbuckled, the driver's door is ajar, and the brake pedal is not pressed when the vehicle is

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<sup>58</sup> PE 15-030 Opening Resume, MCPS011957

<sup>59</sup> PE 15-030 Closing Resume, MCPS011953; EA 16-002 Opening Resume, MCPS011955

<sup>60</sup> EA 16-002 Opening Resume, MCPS011955

<sup>61</sup> PE 15-030 Closing Resume, MCPS011953; EA 16-002 Opening Resume, MCPS011955

<sup>62</sup> PE 15-030 Closing Resume, MCPS011953; EA 16-002 Opening Resume, MCPS011955-6

<sup>63</sup> EA 16-002 Closing Resume, MCPS011946

<sup>64</sup> EA 16-002 Closing Resume, MCPS011948-9

<sup>65</sup> EA 16-002 Closing Resume, MCPS011949

<sup>66</sup> EA 16-002 Closing Resume, MCPS011948

not in Park, the vehicle will automatically shift into Park.<sup>67</sup> In the third scenario, the driver attempts to shift into Park while the vehicle is moving at a speed too high for the transmission to engage in Park, and the vehicle defaults to Neutral. As a remedy for this third scenario, if the vehicle speed drops to 1.2 mph or less within five seconds of the attempted shift to Park, the vehicle will automatically shift into Park.<sup>68</sup>

## **Lextant Projects (“Clinics”)**

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## Materials Provided to Owners

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Materials related to the gearshift were available to owners and lessees of the class vehicles at the time of purchase or lease or during their ownership of the vehicle. These materials include the Owner's Manual, the User Guide, Tips Cards, and the Auto Park Supplement. Information in these documents that pertain to the gearshift is described below.

### Owner's Manual

We reviewed the Owner's Manuals from the 2012-2014 Dodge Charger, 2012-2012 Chrysler 300, and 2014-2015 Jeep Grand Cherokee. While instructions and warnings related to the gearshift are nearly identical across all class vehicle Owner's Manuals, we summarize those from the 2015 Jeep Grand Cherokee in the below table (**Table 1**).<sup>139</sup>

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<sup>136</sup> Lextant Document 082012.1 p. 61

<sup>137</sup> Lextant Document 082012.1 pp. 61, 70, 75

<sup>138</sup> Lextant Document 082012.1 p. 11

<sup>139</sup> 2015 Jeep Grand Cherokee Owner's Manual

<b>Content from Owner's Manual</b>	<b>Page Numbers</b>
WARNING! Unintended movement of a vehicle could injure those in or near the vehicle. As with all vehicles, you should never exit a vehicle while the engine is running. Before exiting a vehicle, always apply the parking brake, shift the transmission into PARK, and make sure the keyless ignition node is in the "OFF" mode. Remove the Key Fob from the vehicle, and lock the vehicle. When the ignition is in the OFF mode, the transmission is locked in PARK, securing the vehicle against unwanted movement.	424-425
The electronic shift lever in this vehicle does not slide like a conventional shifter. Instead, the shift lever is spring loaded and moves forward and rearward, always returning to the center position after each gear is selected. The transmission gear (PRND) is displayed both on the shift lever and in the Driver Information Display (DID) <sup>140</sup> . To select a gear range, press the lock button on the shift lever and move the lever rearward or forward. You must also press the brake pedal to shift the transmission out of PARK or to shift from NEUTRAL into DRIVE or REVERSE when the vehicle is stopped or moving at low speeds...To shift past multiple gear ranges at once (such as PARK to DRIVE), move the lever past the first (or second) detent. Select the DRIVE range for normal driving.	427-428
When parking on a level surface, you may shift the transmission into PARK first, and then apply the parking brake.	429
WARNING! Never use the PARK position as a substitute for the parking brake. Always apply the parking brake fully when parked to guard against vehicle movement and possible injury or damage.	430, 468
WARNING! Your vehicle could move and injure you and others if it is not in PARK. Check by trying to move the transmission gear selector out of PARK with the brake pedal released. Make sure the transmission is in PARK before leaving the vehicle.	430
WARNING! Unintended movement of a vehicle could injure those in or near the vehicle. As with all vehicles, you should never exit a vehicle while the engine is running. Before exiting a vehicle, always apply the parking brake, shift the transmission in PARK, turn the engine OFF, and remove the Key Fob. When the ignition is in the OFF mode, the transmission is locked in PARK, securing the vehicle against unwanted movement.	430-431
With brake pedal released, look at the transmission gear position display and verify that it indicates the PARK position (P).	432
WARNING! You or others could be injured or killed if you leave the vehicle unattended with the transfer case in the NEUTRAL (N) position without first fully engaging the parking brake. The transfer case NEUTRAL (N) position	438, 439, 442, 556-557

<sup>140</sup> The Driver Information Display (DID) is referred to as Electronic Vehicle Information Center (EVIC) in the owner's manuals for the Chrysler 300 and Dodge Charger.

disengages both the front and rear drive shafts from the powertrain and will allow the vehicle to roll, even if the transmission is in PARK. The parking brake should always be applied when the driver is not in the vehicle.	
<b>WARNING!</b> Always fully apply the parking brake when leaving your vehicle, or it may roll and cause damage or injury. Also be certain to leave the transmission in PARK. Failure to do so may allow the vehicle to roll and cause damage or injury.	469

**Table 1. Excerpts from the 2015 Jeep Grand Cherokee Owner's Manual.** The Owner's Manual is provided at the time of purchase or lease of class vehicles.

### User Guide

Owners and lessees of the class vehicles are provided with a User Guide (and enclosed DVD) at their time of purchase or lease which is intended to familiarize the driver with important features of the vehicle.<sup>141</sup> We reviewed instructions and warnings related to the gearshift from the 2015 Jeep Grand Cherokee User Guide.

The 2015 Jeep Grand Cherokee User Guide contains multiple warnings related to the gearshift including, "Never use the 'PARK' position as a substitute for the parking brake. Always apply the parking brake fully when parked to guard against vehicle movement and possible injury or damage,"<sup>142</sup> "You or others could be injured if you leave the vehicle unattended with the transfer case in the N (Neutral) position without first fully engaging the parking brake. The transfer case N (Neutral) position disengages both the front and the rear driveshafts from the powertrain and will allow the vehicle to move regardless of the transmission position. The parking brake should always be applied when the driver is not in the vehicle,"<sup>143</sup> and "To prevent the vehicle from rolling unintentionally, firmly apply the parking brake."<sup>144</sup>

The User Guide contains written and pictorial information related to how to use the gearshift, portrayed in **Figure 1**.<sup>145</sup> This page describes the nature of the gearshift, and how to shift to and from various gears.

<sup>141</sup> 2015 Jeep Grand Cherokee User Guide, inside cover

<sup>142</sup> 2015 Jeep Grand Cherokee User Guide, p. 4

<sup>143</sup> 2015 Jeep Grand Cherokee User Guide, pp. 163, 171

<sup>144</sup> 2015 Jeep Grand Cherokee User Guide, p. 208

<sup>145</sup> 2015 Jeep Grand Cherokee User Guide, p. 53

## ELECTRONIC SHIFTER

Your vehicle is equipped with a fuel efficient 8 speed transmission. The electronic shift lever in this vehicle does not slide like a conventional shifter. Instead, the shift lever is spring loaded and moves forward and rearward, always returning to the center position after each gear is selected.

The transmission gear (PRND) is displayed both on the shift lever and in the Driver Information Display (DID).

### Shifting From PARK To DRIVE

- Firmly depress the brake pedal, press the lock button on the shift lever, then pull and hold the shift lever fully rearward until "D" is displayed in the DID.
- To shift back into PARK from DRIVE, bring the vehicle to a complete stop, fully depress the brake pedal, press the lock button on the shift lever, then push and hold the shift lever fully forward until "P" is displayed in the DID.

### Shifting From REVERSE To NEUTRAL

- Pull the shift lever rearward to the first detent and release. "N" will display in the DID.
- To shift back into REVERSE from NEUTRAL, firmly depress the brake pedal, press the lock button on the shift lever, then push the shift lever forward to the first detent and release. "R" will display in the DID.

### Shifting From NEUTRAL To DRIVE

- Firmly depress the brake pedal, press the lock button on the shift lever, then pull the shift lever rearward and release. "D" will display in the DID.
- To shift back into NEUTRAL from DRIVE, firmly depress the brake pedal, press the lock button on the shift lever, then push the shift lever forward and release. "N" will display in the DID.

### Shifting From REVERSE To DRIVE

- Bring the vehicle to a complete stop, firmly depress the brake pedal, then pull the shift lever rearward and release when "D" is displayed in the DID.
- To shift back into REVERSE from DRIVE, bring the vehicle to a complete stop, firmly depress the brake pedal, press the lock button on the shift lever, then push the shift lever forward and release when "R" is displayed in the DID.



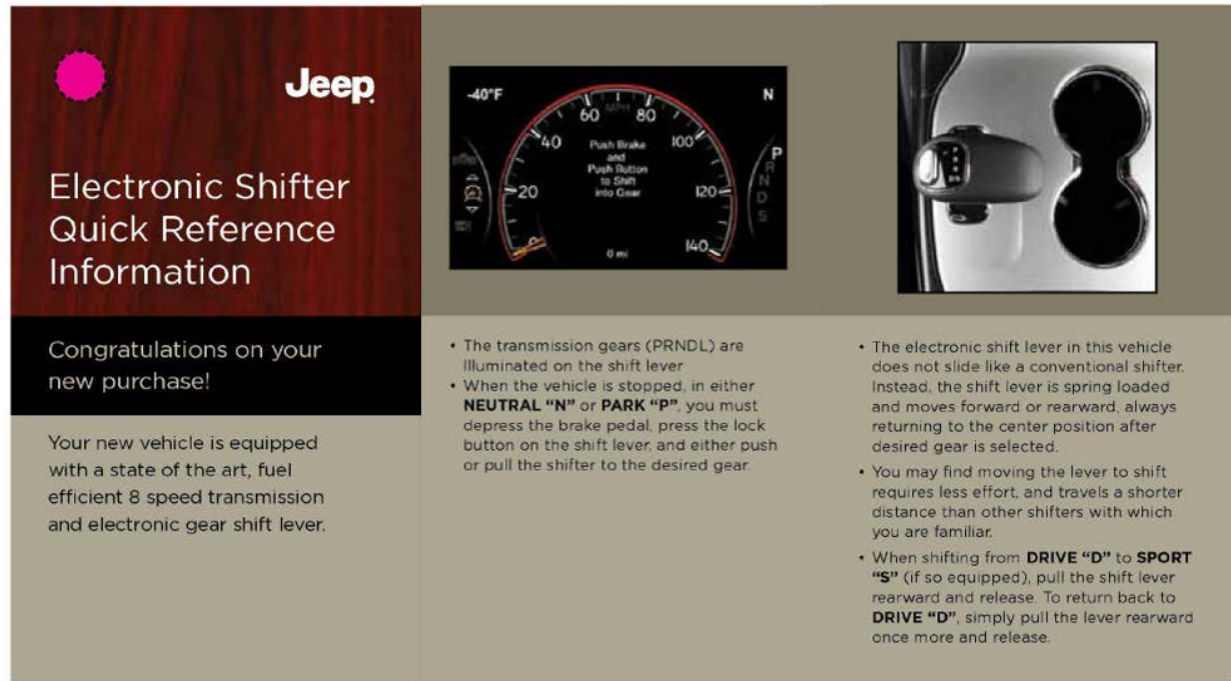
Transmission Shift Lever

- 1 — Lock Button  
2 — Transmission Shift Lever

**Figure 1. Excerpt from the 2015 Jeep Grand Cherokee User Guide.** The User Guide is available at the time of purchase or lease of the class vehicles.

### Tips Cards

Another source of information available to drivers were the Tips Cards in the vehicle at the time of their purchase or lease. Among these is the Electronic Shifter Quick Reference Information Tips Card Hang Tag (**Figure 2**).<sup>146</sup> This describes the electronic gearshift, and where the gear information is displayed on the gearshift and dashboard.



**Figure 2. Jeep Electronic Shifter Quick Reference Information.** The Electronic Shifter Quick Reference Information Tips Card is available in the glovebox of class vehicles.

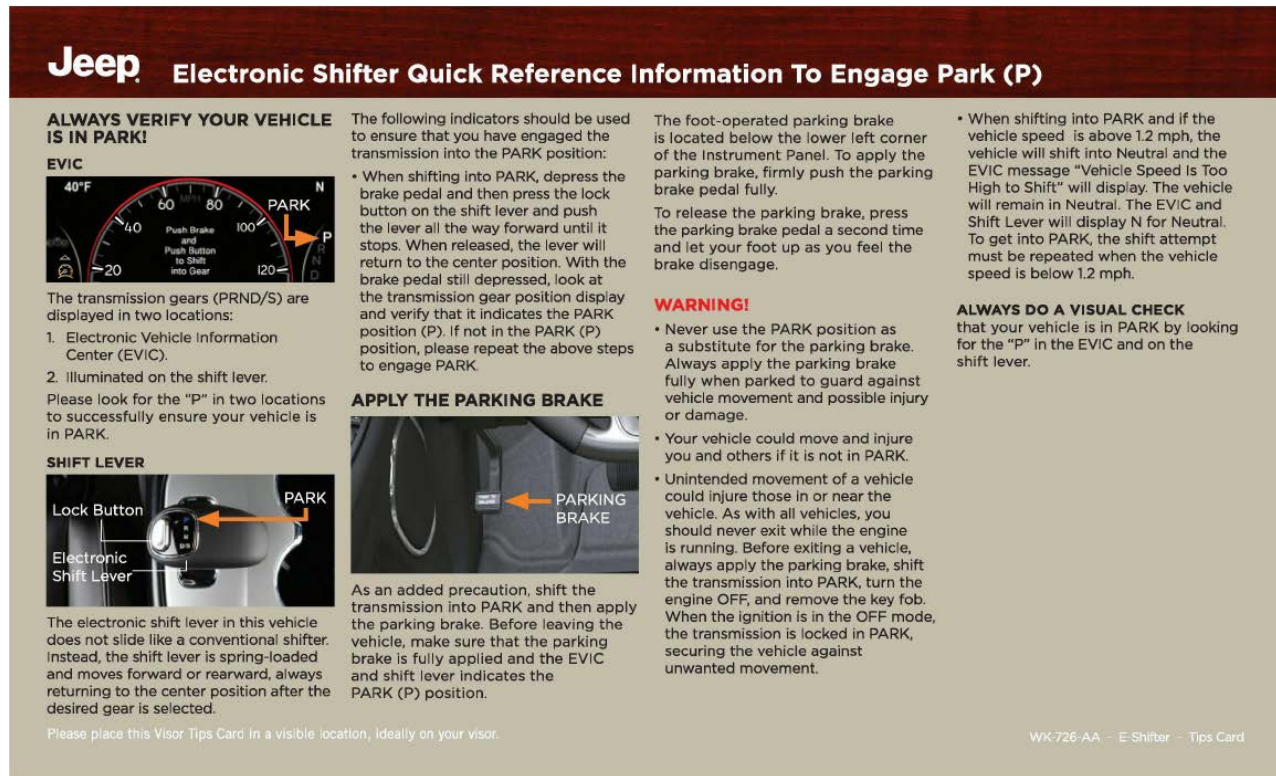
Owners and lessees of the class vehicles were mailed an Electronic Shifter Quick Reference Information to Engage Park (P) Tips Card with the interim notification letter sent in May of 2016, describing the potential for rollaways.<sup>147</sup> This document contains both written and pictorial information including warnings related to ensuring the vehicle is in Park.<sup>148</sup> There is an instruction on this document to place the Tips Card in a visible location, ideally on the driver's visor. See **Figure 3** for the complete Tips Card sent to Jeep owners and lessees.

<sup>146</sup> Jeep Electronic Shifter Quick Reference Information [MCPS032255- MCPS032257]

<sup>147</sup> EA 16-002 Closing Resume, MCPS011948-9

<sup>148</sup> Jeep Electronic Shifter Quick Reference Information to Engage Park (P) [MCPS032273]






**Figure 3. Jeep Electronic Shifter Quick Reference Information to Engage Park (P).** The Electronic Shifter Quick Reference Information to Engage Park (P) Tips Card was mailed to class vehicle owners and lessees along with the interim notification letter.

### Auto Park Supplement

Owners and lessees of class vehicles who chose to have the recall remedy performed on their vehicle received an Auto Park Supplement from the dealership.<sup>149</sup> This provides information related to the conditions under which Auto Park will engage, and is shown in **Figure 4**.

<sup>149</sup> Auto Park Supplement [MCPS032275]





**Driver inattention could lead to failure to place vehicle in PARK.**  
**ALWAYS DO A VISUAL CHECK** that your vehicle is in PARK by looking for the "P" in the EVIC or on the shift lever.  
 As an added precaution apply the parking brake.

**Auto Park is a new feature.**  
**It is not designed to replace the need to shift your vehicle into PARK.**

<p><b>If vehicle is not in PARK and driver presses the ignition switch to turn off the engine, the vehicle will Auto Park.</b></p> <p>Auto Park will engage under these conditions:</p> <ul style="list-style-type: none"> <li>Vehicle is not in PARK</li> <li>Vehicle Speed is 1.2 MPH or less</li> <li>Ignition switch is pressed</li> </ul> <p><b>WARNING:</b> The engine will turn off and ignition switch changes to Accessory Mode (ACC). After 30 minutes it times out and ignition switch changes to OFF, unless the driver turns the ignition switch OFF.</p>	<p><b>If vehicle is not in PARK and driver exits the vehicle with the engine running, the vehicle will Auto Park.</b></p> <p>Auto Park will engage under these conditions:</p> <ul style="list-style-type: none"> <li>Vehicle is not in PARK</li> <li>Vehicle speed is 1.2 MPH or less</li> <li>Driver's seat belt is unbuckled</li> <li>Driver's door is ajar</li> <li>Brake Pedal is not depressed</li> </ul> <p>The MESSAGE <b>"Auto Park Engaged Press Brake + Push Button to Shift to Gear"</b> will display in the Electronic Vehicle Information Center (EVIC).</p>	<p><b>If the driver attempts to shift into PARK while moving, the vehicle may Auto Park.</b></p> <p>Auto Park will engage <b>ONLY</b> when vehicle speed is 1.2 MPH or less within 5 seconds of the shift to PARK request.</p> <p>The MESSAGE <b>"Vehicle Speed is too high to shift"</b> will display in the EVIC if vehicle speed is above 1.2 MPH.</p> <p>If conditions are not met which allow the vehicle to engage PARK within 5 seconds of the request, driver will need to request PARK again.</p> <p><b>WARNING:</b> If vehicle speed is not below 1.2 MPH within 5 seconds of the request, the transmission will default to NEUTRAL. A vehicle left in the NEUTRAL position can roll if left unattended. As an added precaution always apply the parking brake when exiting the vehicle.</p>
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**ALWAYS DO A VISUAL CHECK** that your vehicle is in PARK by looking for the "P" in the EVIC and on the shift lever.  
 As an added precaution, apply the parking brake.

**Figure 4. Auto Park Supplement.** The Auto Park Supplement is provided to class vehicle owners and lessees at the time of their recall remedy by the dealership.

### Summary

In summary, information related to how to safely secure the vehicle before exiting and how to properly use the gearshift was available to owners and lessees in multiple locations. Specific instructions and warnings to apply the parking brake and/or shift to Park before turning the ignition off are provided in the Owner's Manual, User Guide, and Tips Cards. In some cases, this information is contained within the instructional text, and in others, it is contained in clearly isolated, highlighted warnings panels.

## Description of Plaintiff Incidents

Forty-one of 44 plaintiffs were deposed, many of whom reported experiencing incidents with their gearshift (see Appendices C-H for summaries of plaintiffs' characteristics and experiences). The 41 deposed plaintiffs owned or leased a total of 39 class vehicles, including 17 2014 Jeep Grand Cherokees, 17 2015 Jeep Grand Cherokees, four 2014 Chrysler 300s, and one 2012 Dodge Charger. The age range of the deposed plaintiffs varied between 23 and 84, with approximately 60% aged 40 or above, and 22% aged 60 or above. The duration of vehicle ownership at the time

of the reported incidents ranged from several days after purchase, to approximately four years (47 months) after purchase.<sup>150</sup>

Out of these 41 deposed plaintiffs, six reported that they had not experienced any gearshift incidents in their vehicle. The remaining 35 plaintiffs reported a total of 90 discrete gearshift incidents of which they could specifically recall details. Some plaintiffs alleged to have had many more gearshift incidents that they could not recall; for instance, Ms. Krystal Dial estimated that she experienced approximately 28 events between 2015 and 2017 in which she believed her car to be in Park but the vehicle was actually in Reverse or Drive.<sup>151</sup>

Out of these 35 plaintiffs, seven indicated an incident occurred while a relative or other person was the driver. For three of these, the plaintiff was not present for the incident and heard about it from the person who had been driving. For the remaining four incidents, the plaintiff directly witnessed the incident either as a passenger or bystander.

Out of the 90 alleged incidents, plaintiff testimony indicated that 51 occurred prior to the recall remedy, and 15 occurred after the recall remedy.<sup>152</sup> This suggests that the circumstances surrounding the incidents differed across plaintiffs. The presence of incidents after the recall remedy suggests that some plaintiffs didn't take their seat belt off or open the door of the vehicle, which are part of the Auto Park triggers.<sup>153</sup>

The 90 alleged incidents took place in a variety of locations, including garages and driveways (40 incidents), parking lots (19 incidents), gas stations (2 incidents), a car wash (1 incident), and a valet (1 incident). These incidents also occurred on a variety of different roadway geometries, including flat surfaces, hills, and inclines. For the incidents about which plaintiffs could recall specific information, 32 occurred when the driver was alone, and 22 occurred when others were present in the vehicle. There is evidence that some of these incidents may have been related to distractions from passengers or other attentional or behavioral factors, such as being in a rush. For instance, Mr. Todd Machtley stated that as he pulled his 2015 Jeep Grand Cherokee into his driveway, his infant daughter was in the back screaming, and as he was trying to hurry to figure out what was wrong with her, he opened his driver's side door and realized the car started to move; he put his foot on the brake and realized it was in Reverse.<sup>154</sup> Similarly, Ms. Justine Andollo stated she was dropping off her four kids at school in her 2015 Jeep Grand Cherokee and as she started to exit to help her kids get what they needed out of the back, the car started rolling forward; she adjusted the shift lever and stopped the vehicle.<sup>155</sup>

Based on plaintiff testimony, 19 incidents were consistent with events in which the driver exited the vehicle and the vehicle traveled some distance before being secured. However, 49 incidents

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<sup>150</sup> Appendix C, Appendix H

<sup>151</sup> Deposition of Krystal Dial 11/16/2017 (K. Dial), pp. 20-21, 23-24, 115

<sup>152</sup> Appendix C

<sup>153</sup> EA 16-002 Closing Resume, MCPS011948

<sup>154</sup> Deposition of Todd Machtley 10/25/2017 (T. Machtley), pp. 7, 83-84

<sup>155</sup> Deposition of Justine Andollo 01/30/2018 (J. Andollo), pp. 9, 177-178, 182

were quickly corrected and did not result in any injury or property damage. These 49 incidents were consistent with events in which the vehicle was quickly stopped by the driver, who had not fully exited the vehicle, by placing his or her foot on the brake after the vehicle traveled some distance. For instance, Mr. Cameron Webster stated that he thought he put his 2014 Jeep Grand Cherokee in Park, and the driver's door was open when the vehicle began rolling; he stepped on the brake and put the vehicle into Park.<sup>156</sup> Mr. Casey Perkins stated that he put his 2014 Chrysler 300 in Park, and as he put one foot on the ground, he felt it starting to move, so he hit the brake and saw that the vehicle was in Reverse.<sup>157</sup>

Based on plaintiff testimony, nine incidents resulted in some type of injury or property damage. Seven of these incidents involved the driver fully exiting the vehicle prior to the vehicle rolling away. One example is alleged by Mr. Taylor Brooks, who testified he parked his 2015 Jeep Grand Cherokee at a gas pump by placing the car in Park and turning the vehicle off.<sup>158</sup> After going inside the gas station, he saw his vehicle roll past the door across the street and onto the curb; the vehicle hit some fencing and wire on a pole and sustained a dent to the rear and a scratch on the rear windshield.<sup>159</sup> Ms. Ashley Gillispie testified she parked her 2015 Jeep Grand Cherokee, did not shut the vehicle off, and exited the vehicle; the vehicle moved a few minutes later, sideswiped a trampoline, and hit a tree.<sup>160</sup> Ms. Mary Metzger reportedly stopped her 2014 Jeep Grand Cherokee in the driveway, shifted to Park, stepped out of her car to put things in a trash can, and her car started to move forward; she tried to grab the wheel and get back in the car but lost her balance and fell.<sup>161</sup>

The descriptions of the incidents reported by the 41 named plaintiffs who offered deposition testimony reveals a wide variety of circumstances under which these incidents occurred. Many plaintiffs reported having no incidents at all. The plaintiffs varied in age and length of vehicle ownership. The described incidents occurred in different locations, ranging across garages, driveways, parking lots, and gas stations, and on both flat and inclined surfaces. The incidents occurred in varied contexts both alone and with other passengers in the vehicles, including children. The incidents resulted in different types of outcomes, ranging from drivers responding quickly and securing the vehicle, to incidents in which the driver was fully outside of the vehicle while it began moving. Given the range of circumstances illustrated by the named plaintiffs, there is no typical event, experience or behavior that emerges from their testimony.

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<sup>156</sup> Deposition of Cameron Webster 02/12/2018 (C. Webster), pp. 10, 83-86

<sup>157</sup> Deposition of Casey Perkins 05/01/2018 (C. Perkins), pp. 9, 201-202

<sup>158</sup> Deposition of Taylor Brooks 06/29/2017 (T. Brooks), pp. 7-8, 81

<sup>159</sup> T. Brooks, pp. 78, 82, 84-85

<sup>160</sup> Deposition of Ashley Gillispie 07/24/2018 (A. Gillispie), pp. 43, 62, 93-96, 98

<sup>161</sup> Deposition of Mary Metzger 03/06/2018 (M. Metzger), pp. 8-9, 215-220

## Purchase Decision Analysis

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### Plaintiffs' Backgrounds and Experiences

In deciding to purchase or lease a vehicle, consumers must evaluate the importance of a confluence of factors, including vehicle pricing, safety, and technology, and subsequently determine their value for the tradeoffs they choose.<sup>162</sup> This decision process is fundamentally influenced by an individual's own preferences, experience, and knowledge, and is enhanced when there are many alternatives, or when there is a great deal of information available from multiple sources.<sup>163</sup> Differences in purchase decision behavior are evident in the 41 deposed plaintiffs, who vary in knowledge, educational background, employment history, and experience with the class vehicles or other vehicles more generally. Below are several examples from the deposed plaintiffs, which illustrate the diversity in the plaintiffs' experiences and backgrounds:

1. Ms. Andollo has an Associate's degree in physical therapy and runs her own contracting services business with her husband.<sup>164</sup> She testified that she has owned or leased "a lot" of vehicles in her lifetime, and has experience using different types of gearshifts, including different steering column designs.<sup>165</sup> At the time of her deposition, Ms. Andollo reported using her leased 2015 Jeep Grand Cherokee for occasional driving.<sup>166</sup>
2. Ms. Gillispie has a license in cosmetology and currently works as a hairdresser.<sup>167</sup> Prior to her Jeep Grand Cherokee, Ms. Gillispie had a Camaro, a Honda Accord, and two Cadillac CTSs, which are all coupes or sedans.<sup>168</sup> Ms. Gillispie also testified that she never drives either of her husband's two trucks in her household,<sup>169</sup> and uses her Jeep Grand Cherokee as a daily commuter vehicle to and from work.<sup>170</sup>
3. Ms. Dial has a high school degree and works in a medical imaging center.<sup>171</sup> She uses her 2014 Jeep Grand Cherokee for "everything", including commuting to work, bringing her kids to games, and vacation.<sup>172</sup> Ms. Dial has owned at least three vehicles prior to her Jeep Grand Cherokee.<sup>173</sup>
4. Mr. Kean McDonald has a background in computer science, and is a Vice President of a financial services company.<sup>174</sup> Mr. McDonald testified that he has no other vehicles in his

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<sup>162</sup> Bettman, et al. 1991

<sup>163</sup> *Ibid.*

<sup>164</sup> J. Andollo, pp. 19, 20

<sup>165</sup> J. Andollo pp. 106-107

<sup>166</sup> J. Andollo pp. 9, 39, 43, 75, 118, 119, 121

<sup>167</sup> A. Gillispie, pp. 17-18

<sup>168</sup> A. Gillispie, pp. 22, 27, 34

<sup>169</sup> A. Gillispie, pp. 46, 47

<sup>170</sup> A. Gillispie, pp. 18, 43, 62, 64, 173

<sup>171</sup> K. Dial, p. 11, 12

<sup>172</sup> K. Dial pp. 7-8, 11, 28, 45

<sup>173</sup> K. Dial pp. 34, 58, 66

<sup>174</sup> Deposition of Kean McDonald 05/21/2018 (K. McDonald), pp. 28, 32

household and does not consider his Jeep his daily driving car.<sup>175</sup> Instead, Mr. McDonald typically takes the train to work, and has only driven his Jeep 6,000 to 7,000 miles per year since he has owned it.<sup>176</sup>

5. Mr. Bruce Vosburgh has a background in elementary education, is retired, and works part-time as a school program director.<sup>177</sup> Mr. McDonald considers himself the primary driver of his vehicle and has driven many miles in his Jeep cross-state for his job.<sup>178</sup>

#### Science of Purchase Decisions

Scientific research demonstrates that consumers tend to be highly heterogeneous in terms of the product features they prioritize when making a purchase decision.<sup>179</sup> Unsurprisingly, as the number and type of options available increases, the purchase decision process also becomes more complex. In particular, when compared to other consumer products, the purchase of a vehicle is often more nuanced and involves more variability due to the consideration of a large number of specific features and attributes (e.g., color, seat material, infotainment options, technology systems, price).<sup>180</sup> As part of the purchase decision process, consumers must evaluate the available vehicle options and prioritize those features they identify as most important based on their own knowledge and experiences.<sup>181</sup>

For example, in one survey of vehicle owners, respondents indicated that their currently owned vehicle was an important factor in choosing the vehicle they would wish to purchase.<sup>182</sup> Specifically, 76% of car drivers expressed interest in purchasing another car, while 77% of truck drivers expressed interest in purchasing another truck.<sup>183</sup> In this same survey, consumers were asked to rate the relative importance of various vehicle features (e.g., vehicle design, fuel economy, cost of ownership, brand, technology) on a five point scale ranging from “Very Important” to “Very Unimportant.” Responses varied by individual as well as by feature. For example, 33% of respondents rated “Cost of ownership” as “Very Important” while 14% rated it as “Very Unimportant.” For “Advanced Safety Systems,” 19% rated it as “Very Important” while an almost equal amount (16%) rated it as “Very Unimportant.” Similar variability was observed across the other rated features.<sup>184</sup> In another survey, respondents were asked what would influence their next choice of vehicle.<sup>185</sup> Seven different features were identified as being the “Most Important” consideration in a new vehicle purchase. No single feature of the seven was identified as being the most important by more than 37% of respondents (“Fuel Economy”), and one feature

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<sup>175</sup> K. McDonald, pp. 9, 27

<sup>176</sup> K. McDonald, pp. 9, 86

<sup>177</sup> Deposition of Bruce Vosburgh 02/01/2018 (B. Vosburgh), pp. 9, 11

<sup>178</sup> B. Vosburgh, pp. 26-27

<sup>179</sup> E.g., Sanbonmatsu & Fazio, 1990; Bettman et al., 1991

<sup>180</sup> Abramson & Desai, 1993

<sup>181</sup> *Ibid.*

<sup>182</sup> NADA, 2014

<sup>183</sup> *Ibid.*

<sup>184</sup> *Ibid.*

<sup>185</sup> Consumer Reports, 2012

(“Technology/Innovation”) was identified as being the most important by only 3% of respondents. Of the remaining identified features, none was identified as the most important by more than 17% of respondents (“Quality”). “Safety” was chosen by 16% of respondents.<sup>186</sup>

Importantly, the process of determining a vehicle’s perceived value depends on the extent to which certain features are considered “positive” or “negative” by the consumer. This value judgment is ultimately critical for the purchase decision process, as it drives the compromises that consumers are willing to make. For the named plaintiffs, this is particularly true for individuals who considered the monostable gearshift interesting, “cool,” or as a selling point prior to their purchase,<sup>187</sup> and therefore needed to weigh these sentiments against any issues they experienced with the gearshift during the test drive, such as confusion or dissatisfaction.<sup>188</sup> Importantly, differences in how individuals perceive safety and technology influences whether specific features will be viewed positively or critically. For example, deposed plaintiffs who view the monostable gearshift as interesting, or as new technology and a selling point as part of their vehicle purchase decision<sup>189</sup> may be more willing to accept having to learn a new technology or design to receive the benefit of the features they desire.<sup>190</sup>

This heterogeneity in the process by which consumers reach a purchase decision is further illustrated by data from the deposed plaintiffs, and the diversity in the degree to which they considered the monostable gearshift as an important feature in making their purchase decision. For instance, Ms. Andollo testified that she was “zeroed in” on buying a Jeep prior to shopping for a vehicle,<sup>191</sup> and Mr. Robert Hyatt testified that he was specifically looking for a family vehicle larger than a sedan, seeking out dependability, safety, and utility in making his vehicle purchase decision.<sup>192</sup> During his test drive, Mr. Hyatt did not notice the gearshift, except that it operated as intended.<sup>193</sup> Mr. Machtley testified that the gearshift would have been one of the last things he thought about when purchasing his vehicle, and instead he focused more on the options he was looking for.<sup>194</sup> On the other hand, Mr. Jacob Gunnells clearly factored the gearshift into his purchase decision process – he thought it was a new unique technology design, and considered it a selling point.<sup>195</sup> In short, there is heterogeneity in the named plaintiffs’ knowledge, experience, and initial impressions of the gearshift as well as in the value they placed on and the degree to which they considered the gearshift in making their ultimate decision to purchase or lease the class vehicle.

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<sup>186</sup> *Ibid.*

<sup>187</sup> E.g., Deposition of Todd Fisher 11/30/20017 (T. Fisher), pp. 89, 90; Deposition of Jacob Gunnells 06/05/2018 (J. Gunnells), pp. 38-39,45; Deposition of Janella Mack 07/25/2017 (J. Mack), pp. 75-76

<sup>188</sup> E.g., T. Fisher, pp. 89, 90; Deposition of Danielle Hackett 05/22/2018 (D. Hackett), p. 67

<sup>189</sup> E.g., T. Fisher, pp. 89, 90; J. Gunnells, pp. 38-39, 45; J. Mack, pp. 75-76

<sup>190</sup> E.g., Deposition of Ann Magnuson 10/24/2017 (A. Magnuson), p. 75

<sup>191</sup> J. Andollo, pp. 69, 87-88

<sup>192</sup> Deposition of Ryan Hyatt 07/23/2018 (R. Hyatt), pp. 30-31; 66, 71

<sup>193</sup> R. Hyatt, p. 69

<sup>194</sup> T. Machtley, p. 124

<sup>195</sup> J. Gunnells, pp. 38-39, 45



These data reflect the complexity and variability of the purchase decision process. Individual consumers are largely inconsistent in how they value certain features, as well as the degree to which they consider each feature to be the most influential or important. In the context of the purchase decision process and these findings, it is clear that the effect of any individual feature or component (e.g., gearshift) will have widely varying influence on any consumers deciding to purchase a vehicle.

#### Consumers' Knowledge of, and Experience with the Monostable Gearshift

The degree to which the named plaintiffs completed a test drive or learned and/or knew about the monostable gearshift prior to purchasing their vehicle varies extensively. For example, of the 35/41 deposed plaintiffs that personally completed a test drive, 11 discussed the gearshift with a salesperson during their visit to the dealership.<sup>196</sup> Among other plaintiffs that completed a test drive prior to purchasing their vehicle, several reported that they either did not notice the gearshift,<sup>197</sup> did not notice that it operated differently than other gearshifts,<sup>198</sup> had no conversation with the salesperson about the gearshift,<sup>199</sup> or had never driven a vehicle with a gearshift like it.<sup>200</sup> Some plaintiffs even remarked that the gearshift was not something they discussed or thought about when purchasing the vehicle.<sup>201</sup> Four of the 41 deposed plaintiffs testified that they did not personally test drive the vehicle prior to purchase.<sup>202</sup> One of these four had driven a family member's Jeep Grand Cherokee with a monostable gearshift three years prior and was familiar with the vehicle.<sup>203</sup> Finally, several of the plaintiffs reported disliking the gearshift prior to making the final decision of purchasing their vehicles. Ms. Danielle Hackett and Mr. Joby Hackett both noticed the gearshift was different during their independent test drives,<sup>204</sup> and did not like it.<sup>205</sup> They were willing to compromise because the vehicle handled very well, was quiet inside, and they really liked it.<sup>206</sup> Similarly, Ms. Ann Magnuson did not like the gearshift,<sup>207</sup> but purchased the vehicle anyway, thinking she would get used to it.<sup>208</sup>

These differences in the plaintiffs' knowledge and experience with the monostable gearshift were a crucial driving force underlying the variability in plaintiffs' decision to purchase or lease a vehicle with the monostable gearshift. Critically, even though many of the named plaintiffs testified that they had little to no experience with the monostable gearshift prior to their test drive,<sup>209</sup> less than half of the plaintiffs reported that they asked any questions about the gearshift

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<sup>196</sup> Appendix G

<sup>197</sup> R. Hyatt, p. 69; C. Webster, pp. 54-55

<sup>198</sup> Deposition of John Lynd 06/21/2017 (J. Lynd), pp. 57, 88

<sup>199</sup> Deposition of Cameron Phelps 11/29/2017 (C. Phelps), pp. 74, 83, 133

<sup>200</sup> C. Phelps, pp. 93-94; Deposition of Karen Stedman 02/13/2018 (K. Stedman), pp. 66-67

<sup>201</sup> T. Machtley, p. 124; K. McDonald, p. 55

<sup>202</sup> Appendix G

<sup>203</sup> J. Mack, p. 67

<sup>204</sup> D. Hackett, p. 60; Deposition of Joby Hackett 05/22/2018 (J. Hackett), p. 118

<sup>205</sup> D. Hackett, pp. 60, 67

<sup>206</sup> D. Hackett, p. 67

<sup>207</sup> A. Magnuson, p. 227

<sup>208</sup> A. Magnuson, p. 72

<sup>209</sup> Appendix G

during their dealership visit or test drive.<sup>210</sup> Similarly, although some of the deposed plaintiffs reported dissatisfaction with the gearshift prior to purchasing, this apparent negative experience did not alter their ultimate decision to purchase or lease their class vehicles. Given the variety of knowledge and experience with the monostable gearshift, additional information with respect to the monostable gearshift's function is unlikely to have affected all of the named plaintiffs in the same manner, let alone have the same impact on the entire putative class.

#### Use of Research and Information Sources

In addition to weighing the values of the features on a specific vehicle themselves, consumers will also assess available information about vehicles from other sources. The additional complexity introduced to the purchase decision process will vary with the types and amounts of information that are sought out and/or available to consumers. Consumers interested in considering additional information have a wide variety of sources available, including advertisements, consumer publications, government and third-party ratings, personal contacts, and manufacturer marketing materials, many of which are available on the Internet.<sup>211</sup>

Research indicates that consumers tend to rely on more source materials if they have more time available prior to their purchase.<sup>212</sup> Survey results indicate that consumers considered up to 16 different sources of information and that the specific sources chosen varied with how much time prior to their purchase they were reviewing source material.<sup>213</sup> Of those sources, at any given time point, no single source was identified as the primary source by more than 19% of respondents. At two weeks prior to purchase, 9/16 sources were identified as primary by at least 5.9% of respondents.<sup>214</sup> Indeed, new and used vehicle purchasers alike utilize various information sources to gain information to support purchase decisions.<sup>215</sup> Specific rating and evaluation information is available from various sources including Kelley Blue Book,<sup>216</sup> the Insurance Institute for Highway Safety/Highway Loss Data Institute<sup>217</sup> and the NHTSA, which also provides a searchable repository of information on vehicle recalls and complaints.<sup>218</sup> Leasing versus purchasing will also contribute to variability in the types and source of information considered by a consumer. For example, an individual purchasing a vehicle may give more consideration to the resale value and long-term maintenance reputation of the brand of model than would a lessee who does not intend to keep the vehicle for more than a short time period.

No two consumers will consider identical information leading up to a vehicle purchase. Instead, consumers will vary widely in the amount of research they conduct, as well as the source materials

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<sup>210</sup> *Ibid.*

<sup>211</sup> Abramson & Desai, 1993; Gipson, 2004; Giffin & Richards, 2011

<sup>212</sup> Gipson, 2004

<sup>213</sup> *Ibid.*

<sup>214</sup> *Ibid.*

<sup>215</sup> Giffin & Richards, 2011

<sup>216</sup> <https://www.kbb.com/>

<sup>217</sup> <https://www.iihs.org/iihs>

<sup>218</sup> <https://www.nhtsa.gov/>



they employ.<sup>219</sup> The result is a consumer population with great variability in their knowledge of the vehicles which will, in turn, lead to differences in what they expect from the vehicle they end up purchasing or leasing.

Consistent with the literature, the named plaintiffs did indeed vary in the extent to which they conducted research prior to purchasing or leasing their vehicles, if any. For example, Mr. Brooks did not do any independent research prior to purchasing his 2015 Jeep Grand Cherokee, and instead relied on the experiences of his friends and family as his basis for considering it a good, reliable, and safe vehicle.<sup>220</sup> Importantly, none of Mr. Brooks' friends or family owned a 2014 or 2015 Jeep Grand Cherokee when he purchased his.<sup>221</sup>

In contrast, Ms. Andollo testified that she reviewed multiple independent sources of information prior to purchasing her vehicle. Specifically, Ms. Andollo read articles and viewed magazine pictures, reviewed documentation in Consumer Reports, Edmunds, and U.S. News, reviewed the vehicle's hardbound book at the dealership, and saw "a lot" of advertisements on television specifically for the Jeep Grand Cherokee that described the vehicle as most awarded in class.<sup>222</sup> Ms. Debra Felker also recalls television advertisements mentioning best in class performance.<sup>223</sup> However, unlike Ms. Andollo, Ms. Felker did not review any other marketing materials prior to purchasing, and instead relied on what the salesman at the dealership told her about the vehicle.<sup>224</sup> Ms. Felker also did not investigate whether the vehicle had any recalls, despite having owned 10-15 vehicles in the last 5 years,<sup>225</sup> and having experience with at least one recall on a prior vehicle she owned.<sup>226</sup>

In short, these differences illustrate the diversity in the degree to which the named plaintiffs conducted varying amounts and depths of research prior to purchasing their vehicles. This is in addition to the types of material they reviewed or were exposed to. Of the 41 deposed plaintiffs, 14 did not conduct any research (e.g. from internet reviews, reports, government webpages, or dealership brochures), 24 relied on 2 sources or less, and only 3 relied on three or more sources in making their purchase decision.<sup>227</sup> Thus, even among the named plaintiffs that did conduct research prior to their purchase, the amount and specific sources of information, and subsequent knowledge attained about the vehicle, showed wide variability.

#### Price Negotiation and Point of Purchase Experience

While many of the aspects contributing to the complexity of a purchase decision are similar for most consumer products as well as vehicles, one unique aspect of purchasing or leasing a vehicle

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<sup>219</sup> Gipson, 2004

<sup>220</sup> T. Brooks, pp. 38, 58

<sup>221</sup> T. Brooks p. 59

<sup>222</sup> J. Andollo, pp. 47, 56, 58, 87, 89, 91, 92, 95-96, 97

<sup>223</sup> Deposition of Debra Felker 01/29/2018 (D. Felker), pp. 49, 83, 84, 85

<sup>224</sup> *Ibid.*

<sup>225</sup> D. Felker, pp. 87-88

<sup>226</sup> D. Felker, pp. 67-68, 237

<sup>227</sup> Appendix G

is that the price is often open to negotiation. The result is that two individuals purchasing the exact same vehicle will likely end up paying different prices. Other activities and experiences at the point of purchase will create further variety in the purchase decision process and vehicle acquisition experience. Purchasing or leasing a vehicle may involve interaction with numerous entities and people – salespeople, finance managers, independent vehicle brokers and/or private sellers. If the purchase is made through a dealership, promotions, offers, trade-in value of other vehicles, and vehicle stock on the day of purchase will affect the purchase decision and experience. In turn, this leads to high variability in the purchase price for the same or similar vehicles across purchasers. Aptitude and desire for price negotiation will introduce additional variability to the process. Factors such as race, gender, income and education, have been shown to influence the prices paid for vehicles.<sup>228</sup>

An individual's value judgment for a given vehicle will also play a role in the cost a particular consumer is willing to bear. If a consumer places higher value or importance on a particular vehicle or feature than another, he/she may be willing to pay a higher price for the same vehicle. For example, based on the build and price tool available on the Jeep website, a new 2019 Jeep Grand Cherokee can range from approximately \$33,200 to \$102,900, depending on packages and options.<sup>229</sup> According to TrueCar.com, a website that provides pricing data for new and used vehicles, recent listings for a used 2016 Jeep Grand Cherokee near Chicago, IL, at the time of this report, range from approximately \$21,300 to \$54,000.<sup>230</sup> Lastly, prior knowledge or exposure to vehicle types and prices has been shown to influence the value that a person assigns to a given product. For instance, in one study, showing participants examples of extremely expensive or inexpensive vehicles influenced their later judgments of (i.e., the value they placed on) other vehicles.<sup>231</sup> Furthermore, the participants' prior general knowledge about vehicle pricing also affected their judgments of the price of other vehicles.<sup>232</sup> For each individual, the combination of these factors is entirely unique and will affect that individual's choice of vehicle as well as the price that person ends up paying.

The degree to which the named plaintiffs negotiated the purchase price of their vehicle of interest varied extensively. Specifically, Mr. Webster negotiated the terms of the vehicle's selling price at one dealership only,<sup>233</sup> whereas Mr. McDonald got several dealerships involved in a "bidding war."<sup>234</sup> With respect to the role of specific features in determining the value of the vehicle to a consumer, despite testifying that she has always loved Jeep Grand Cherokees, and thought the monostable gearshift was "pretty cool" when she test drove it, Ms. Janella Mack would not necessarily want to pay more for her vehicle just because of the gearshift.<sup>235</sup> Mr. Eliam Bernal

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<sup>228</sup> Morton et al., 2003

<sup>229</sup> [https://www.jeep.com/build.grand\\_cherokee.2018#/models/zipcode/19090/vehicle/CUJ201803](https://www.jeep.com/build.grand_cherokee.2018#/models/zipcode/19090/vehicle/CUJ201803)

<sup>230</sup> [https://www.truecar.com/used-cars-for-sale/listings/jeep/grand-cherokee/year-2016/location-chicago-il/?sort\[\]=price\\_desc](https://www.truecar.com/used-cars-for-sale/listings/jeep/grand-cherokee/year-2016/location-chicago-il/?sort[]=price_desc)

<sup>231</sup> Herr, 1989

<sup>232</sup> *Ibid.*

<sup>233</sup> C. Webster, p. 68

<sup>234</sup> K. McDonald, p. 47

<sup>235</sup> J. Mack, pp. 66, 69, 75

testified that he specifically wanted a Jeep because they are considered expensive luxury items in Cuba, where he immigrated from.<sup>236</sup>

## Factors Influencing Response to Disclosures

### Behavior in Response to Disclosures

Plaintiffs allege that they would not have purchased or leased their vehicles, or only at a lesser price, had they been notified of the alleged defect.<sup>237</sup> However, it is commonly observed that individuals' predictions about both their own and others' behaviors when presented with disclosures or other safety related information are not in line with the actual actions observed.<sup>238</sup> For example, in one study, participants were presented with warnings regarding the use of various products and behavior in different situations. For each, they were asked to indicate whether or not they would comply with the warning and whether or not they believed others would comply with the warning. Each of the scenarios presented was associated with prior research indicating a known compliance rate. When participants' predictions were compared to the observed compliance rates, the predictions were consistently higher than the observations. Specifically, participants indicated that there was a 70% chance that they would comply with the warnings, while the reported compliance for those situations was under 20%.<sup>239</sup>

Similar evidence exists with respect to purchase decisions or behavior having a financial impact. In one study of participants who indicated that they have purchased products because they were eligible for a rebate or redemption offer, 65% responded that they did not submit the rebate at least once.<sup>240</sup> Even when consumers purchase a product with a rebate or redemption, believing that they will submit it, actual behavior suggests that compliance will be less than unanimous. Individuals are not well-calibrated in their ability to predict both their own and others' behavior, an issue that becomes more apparent as the complexity of the decision (e.g., whether and what vehicle to purchase) increases. Furthermore, given that individuals have difficulty predicting their own behavior as well as that of others, it would be unlikely that predictions about the behavior of an entire putative class, each with their own knowledge, desires and experiences, would be any more accurate.

In view of these scientific findings, it would be incorrect to assume that the plaintiffs' predictions about whether or not they would make certain purchases when presented with disclosures about a gearshift issue are reliable. This is further supported by the observed behavior of the named plaintiffs with respect to their use of the class vehicles after learning of the alleged gearshift issue. Twenty-eight out of 41 of the deposed plaintiffs are still in possession of, and regularly continue

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<sup>236</sup> Deposition of Eliam Bernal 12/19/2017 (E. Bernal), pp. 23-24

<sup>237</sup> Complaint, p. 59; K. McDonald, pp. 96, 104, 105; Deposition of John Metzger 03/06/2018 (J. Metzger), p. 92; Deposition of Clare Colrick 03/28/2018 (C. Colrick), pp. 59, 112; J. Hackett, p. 247

<sup>238</sup> Ayres et al., 1990; Frantz et al., 2005; Shaver et al., 2006

<sup>239</sup> Ayres et al., 1990

<sup>240</sup> Fogel & Thornton, 2008

to use, their subject vehicles. This belies their assertions that the issue was so severe as to change their purchase and/or lease decisions, and further demonstrates individuals have differing responses to disclosures about safety issues.

#### Disclosure Location

Several of the plaintiffs allege that FCA US should have disclosed information about the alleged gearshift defects during the time the subject vehicles were sold.<sup>241</sup> However, scientific evidence indicates that even if the allegation were true, it is unlikely that all consumers considering purchase or lease of these vehicles would have noticed and read information offered by FCA US regarding this alleged defect. Furthermore, the inclusion of information in an environment (e.g., in manuals or product documentation) does not necessarily result in the processing of that information. Instead, given the limitations of the human information processing system, attention, and memory, the likelihood that a warning is read decreases with the number and ubiquity of warnings.<sup>242</sup> Finally, an individual's knowledge, experience, and task goals directly influence how information is processed and retained.<sup>243</sup> As an example, over time, previous benign experience with a product will reduce the likelihood of a product's warning being read.<sup>244</sup> At the same time, people may fail to perceive clearly visible objects in their field of view when those objects are not directly relevant for their attentional goals.<sup>245</sup>

*Disclosure language.* The deposed plaintiffs differ in the extent to which they understand or desired specific language in the warning or disclosure that they should have received prior to purchasing their vehicle. For instance, Mr. Melvin Scott and Ms. Karen Stedman each testified that they should have been told there was a defect in the vehicle,<sup>246</sup> whereas Mr. Cameron Phelps thinks there should have been information related to the gearshift as a safety issue,<sup>247</sup> and Ms. Metzger would have wanted to know that the electronics did not work properly.<sup>248</sup> In contrast, Mr. Dustin Stewart is not sure what the dealer should have disclosed to him,<sup>249</sup> and Mr. Wisam Yacoub is unsure of the claims he is asserting against FCA US.<sup>250</sup>

*Owner's manual.* Vehicle owner's manuals contain information about most, if not all, of the vehicle's systems, components and features and are usually many hundreds of pages long (e.g., 706 pages for the 2015 Jeep Grand Cherokee<sup>251</sup>). While some individuals may consult an owner's manual prior to purchase or lease, those who do will generally seek out information on specific topics and read only the sections that are important to them. For example, Mr. Machtley and Mr.

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<sup>241</sup> E.g. Deposition of Marc Hughes 05/31/2018 (M. Hughes), pp. 106, 135; J. Lynd, pp. 269-270; T. Machtley, p. 182

<sup>242</sup> Frantz et al. 1999; Miller, 1956; Strawbridge, 1986

<sup>243</sup> Ayres et al., 1994; Karnes et al., 1986

<sup>244</sup> E.g., Zeitlin, 1994; Karnes et al., 1986; Dorris & Purswell, 1977

<sup>245</sup> Mack & Rock, 1998; Simons & Chabris, 1999

<sup>246</sup> Deposition of Melvin Scott 04/25/2018 (M. Scott), p. 11; K. Stedman, p. 65

<sup>247</sup> C. Phelps, pp. 202-203

<sup>248</sup> M. Metzger, pp. 261-262

<sup>249</sup> Deposition of Dustin Stewart 04/24/2018 (D. Stewart), p. 135

<sup>250</sup> Deposition of Wasim Yacoub 06/27/2018 (W. Yacoub), pp. 54-55

<sup>251</sup> 2015 Jeep Grand Cherokee Owner's Manual

Hyatt read through sections related to the radio,<sup>252</sup> while Mr. John Metzger was specifically interested in the section about the 8-speeds and how to shift.<sup>253</sup> Ms. Metzger and Ms. Stedman, on the other hand, looked for sections related to lights coming on in the vehicle that they were not familiar with,<sup>254</sup> while Ms. Bernadine Hartt and Mr. Marc Hughes reviewed parts of the Owner's Manual for information related to features such as the key fob and touch screen.<sup>255</sup>

Relatedly, Mr. Hughes and Mr. Lynd each testified that information regarding the alleged defect in the gearshift should have been disclosed to them in written form.<sup>256</sup> However, it is unlikely that these plaintiffs would have been attentive to information in written form, given that Mr. Hughes and Mr. Lynd have only read through portions of the manual that were unrelated to the gearshift.<sup>257</sup> Furthermore, Mr. Hughes has never sought information about his vehicle in the accompanying DVD he received with his purchase,<sup>258</sup> despite purchasing the vehicle in 2015 and continuing to use it at the time of his deposition.<sup>259</sup> Similarly, Mr. Lynd felt that he didn't need to go back to the dealership to attend classes related to the features of his new vehicle after his purchase.<sup>260</sup> These examples underscore the fact that Mr. Hughes and Mr. Lynd were unreceptive to receiving new information related to their vehicles, despite their disclosure wishes.

Further, not all of the named plaintiffs (or putative class members) would have been likely to read a disclosure, had it been included. For example, one study showed that less than 1% of participants actively sought out and read safety information in a vehicle owner's manual and only 10% reported reading the manual in its entirety.<sup>261</sup> Seven percent reported reading none of the manual while 62% reported reading specific sections.<sup>262</sup> In line with this finding, none of the named plaintiffs testified to reading the owner's manual prior to purchasing or leasing their vehicles, and 32 of the 41 deposed plaintiffs testified that after purchase/lease they read only certain parts of the manual to find specific information about issues they encountered or features in which they were interested.<sup>263</sup>

*Advertising.* Advertisements are another method by which information about a vehicle can be transmitted. As with vehicle owner's manuals, different people will notice and seek out different types, amounts and content from various advertising sources. For instance, if a consumer already knows what he/she wants than he/she may not need to look at any additional marketing materials and could be unaware of the specific advertisements. In this case, not all of the named plaintiffs would have necessarily been exposed to marketing material. Even if they were exposed to

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<sup>252</sup> R. Hyatt, p. 30; T. Machtley, p. 102

<sup>253</sup> J. Metzger, pp. 28-29

<sup>254</sup> M. Metzger, pp. 139-140; K. Stedman, p. 87

<sup>255</sup> Deposition of Bernadine Hartt 06/07/2018 (B. Hartt), p. 191; M. Hughes, p. 135

<sup>256</sup> M. Hughes, p. 106; J. Lynd, pp. 269-270

<sup>257</sup> M. Hughes, p. 135; J. Lynd, pp. 114-115, 117

<sup>258</sup> M. Hughes, p. 133

<sup>259</sup> M. Hughes, pp. 14, 118

<sup>260</sup> J. Lynd, pp. 129-130

<sup>261</sup> Leonard, 2001

<sup>262</sup> *Ibid.*

<sup>263</sup> Appendix G

marketing material, they would not have been exposed to the same material. For example, Ms. Andollo saw “a lot” of advertisements on television specifically for the Jeep Grand Cherokee that described the vehicle as most awarded in class,<sup>264</sup> while Ms. Hackett recalls seeing television commercials that advertised the Jeep Grand Cherokee’s financing and safety rating.<sup>265</sup> Mr. McDonald testified that he did not look at any consumer websites or marketing materials, and although he was aware of television commercials, he testified that they did not influence his purchase decision.<sup>266</sup> Mr. Scott and Mr. Phelps each did not review any marketing materials before purchasing their 2014 Jeep Grand Cherokees.<sup>267</sup>

Even putative class members who were exposed to the same advertisements likely did not all notice or read the same information. In a survey of 329 consumers, only 56% reported having carefully and completely read the advertisements related to prescription drugs,<sup>268</sup> despite these advertisements containing safety information and warnings about adverse reactions and side effects.<sup>269</sup> As with the owner’s manual, there is no basis to conclude that a disclosure included with advertisements or marketing material would have reached all of the putative class members.

*Purchase or lease agreement.* It is uncommon to see disclosures of specific vehicle-feature issues mentioned on purchase and/or lease agreements. Research on human attention has shown that information not in line with a person’s goal and expectations will often go unnoticed, even if presented directly to the observer.<sup>270</sup> Additionally, purchase and/or lease agreement documents are often verbose with a large amount of legal language, which can be quite cognitively demanding for individuals who do not encounter such information regularly. As discussed above, humans have a limited capacity to attend to and process information,<sup>271</sup> a limitation that can be exacerbated in the presence of cognitively demanding tasks. Therefore, any information (e.g., disclosures) unrelated to the goals of the individual (i.e., finalizing the purchase or lease) will likely not be uniformly noticed or read at the point of sale.<sup>272</sup> Additionally, by the time a consumer is reviewing the purchase or lease agreement, he/she has already made a decision to purchase the vehicle and is cognitively and emotionally invested in that decision. Consideration of various features, as well as trade-offs of the plusses and minuses of the vehicle have already been considered. Presenting specific warnings or disclosures at this time would be both inappropriate and ineffective. As an example, Mr. Metzger testified that he purchased the 2014 Jeep Grand Cherokee because he “loved it so much” and it was his favorite SUV in the last ten years.<sup>273</sup> Mr. Metzger also testified that he would not have purchased the 2014 Jeep Grand Cherokee had he known about the vehicle’s

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<sup>264</sup> J. Andollo, pp. 56, 58, 87, 89, 91,

<sup>265</sup> D. Hackett, p. 53

<sup>266</sup> K. McDonald, pp. 58-59, 61, 95

<sup>267</sup> M. Scott, p. 13; M. Phelps, pp. 8, 57

<sup>268</sup> Wilkes et al., 2000

<sup>269</sup> 21 CFR 202.1(e)(5)(iii)

<sup>270</sup> E.g., Mack & Rock, 1998; Simons & Chabris, 1999

<sup>271</sup> E.g., Miller, 1956

<sup>272</sup> See, e.g., Most et al., 2005

<sup>273</sup> J. Metzger, pp. 88, 93



“unpredictable and erratic manner”.<sup>274</sup> Despite this perceived risk to his safety, he and his wife continue to use their 2014 Jeep Grand Cherokee.<sup>275</sup>

*Outlets for vehicles outside of FCA US’s control.* With respect to the purchase of a used vehicle, the specific information included with the vehicle at the time of sale is outside of the defendants’ control. Used vehicles can be acquired from any number of sources including: family hand-me-downs, auctions, dealerships of the same make, dealerships of a different make, used car lots, and even the Internet from sites such as Craigslist and Ebay.<sup>276</sup> When purchasing a used vehicle from any one of these sources, there is no way for the manufacturer to guarantee that the owner’s manuals and other collateral documents will be included when the vehicle changes hands. If the disclosure is in one of these documents and it is not passed on from one owner to the next, then there would not be a formal mechanism available for defendants to ensure that the information would reach the current owner. The ability of the defendants to get information to consumers in that case would be limited to their own websites, which would then require the new vehicle owner to volitionally seek out the specific website and information prior.

#### Alternative Vehicle Choices

Another variable in understanding how, or if, an individual vehicle purchaser would respond to a disclosure would be the other vehicles that individual was considering for purchase. Generally, if a consumer is engaged in purchasing a vehicle, that consumer has need of a vehicle. Anyone who would choose to not purchase or lease a vehicle after being exposed to a disclosure would either need to remain in their current vehicle or choose a different vehicle to purchase or lease. Consumers are aware that all vehicles have the potential for issues that may need repair. The named plaintiffs in this matter are no different.<sup>277</sup> Even if an individual received a disclosure, he/she would not be comparing the class vehicle to another that is guaranteed to function flawlessly. The evaluation would more accurately be weighing the disclosed issue against any number of potential issues in other vehicles.

For example, Ms. Dial considered many vehicles, including the Buick Enclave and Subaru, during her search for a new vehicle.<sup>278</sup> 2014 Buick Enclaves were the subject of four recalls related to the contamination of the chassis electronic module, failure of the flexible steel cable for the seat belt, inaccurate fuel gauge reading, and a broken transmission adjuster cable.<sup>279</sup> Ms. Felker was also considering a Ford Expedition and Toyota SUV as alternatives to the 2015 Jeep Grand Cherokee.<sup>280</sup> 2015 Toyota Rav4s were the subject of three recalls related to the possible loss of electric power steering, a software issue leading to the trailer lights shutting off, and vehicle accessory detachments.<sup>281</sup> As part of his search for a new vehicle, Mr. Jeffrey Guy was interested

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<sup>274</sup> J. Metzger, p. 91

<sup>275</sup> M. Metzger, p. 78

<sup>276</sup> <https://chicago.craigslist.org/search/cto>; [https://www.ebay.com/b/Cars-Trucks/6001/bn\\_1865117](https://www.ebay.com/b/Cars-Trucks/6001/bn_1865117)

<sup>277</sup> E.g., J. Metzger, p. 45; C. Berken, p. 70; Deposition of Kelli Foreman 11/21/2017 (K. Foreman), p. 180

<sup>278</sup> K. Dial, pp. 66, 67

<sup>279</sup> <https://www.nhtsa.gov/vehicle/2014/BUICK/ENCLAVE/SUV/AWD#recalls>

<sup>280</sup> D. Felker, p. 79

<sup>281</sup> <https://www.nhtsa.gov/vehicle/2015/TOYOTA/RAV4/SUV/FWD#recalls>

in, and test drove, different vehicles in addition to the Jeep Grand Cherokee, including the Toyota Highlander and Ford Explorer.<sup>282</sup> 2015 Ford Explorers were the subject of three recalls related to a hub unit bearing allowing for possible wheel detachment, an improperly welded rear suspension toe link, and parking brakes that may not fully engage.<sup>283</sup>

The decision to purchase or lease a vehicle is a complex one depending on many factors, including consumer's existing knowledge, specific goals and desired features, prior experience as well as any research the consumer performs. The result of going through this decision-making process is that the particular value of a vehicle for any individual will not be the same as the value of the same vehicle to any other person. Additionally, the damage caused to a given individual, or any one of the named plaintiffs, as the result of an alleged defective gearshift, will necessarily be different.

## **Disclosures Related to Uncertainty about Product Performance**

### Warranties

The inclusion of a warranty is evidence that vehicle manufacturers are aware of the possibility that problems may arise with a vehicle after purchase. That consumers may also purchase extended warranties, is further recognition on the part of the consumers that future problems may occur. In this matter, for example, Mr. Metzger and Mr. Perkins each purchased an extended warranty for their subject vehicle, in addition to the vehicle's original warranty.<sup>284</sup> Some purchasers will have an expectation based on past experience that a vehicle may eventually need repair; and an individuals' level of concern about such a possibility will depend, among other things, on whether problems that arise can be remedied and, if so, at what cost. For instance, Ms. Andollo testified that she took her vehicle in for a software update that had to do with the monostable gearshift recall, but testified that she did not know what her vehicle's warranty covered.<sup>285</sup>

### Recalls

Problems that arise with components of vehicles may also be addressed through recalls, which have become a relatively common occurrence. From 2012-2016, there were 3,782 vehicle recalls, affecting over 191 million vehicles.<sup>286</sup> Some members of the putative class would understand that an issue necessitating a recall may arise after the purchase of a vehicle, either through their own experience with a previous vehicle, or through exposure to recall information in the media. For example, Mr. Hackett has received recall notices on prior vehicles that he has owned over time,<sup>287</sup> and Mr. Marble understands recalls to be "a fact of life," given that he has also previously owned vehicles with recalls.<sup>288</sup> Even in instances where the plaintiffs have not had experience with recalls,

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<sup>282</sup> Deposition of Jeffrey Guy 03/27/2018 (J. Guy), p. 53

<sup>283</sup> <https://www.nhtsa.gov/vehicle/2015/FORD/EXPLORER/SUV/FWD#recalls>

<sup>284</sup> J. Metzger, p. 79; C. Perkins, p. 299

<sup>285</sup> J. Andollo, pp. 234, 235

<sup>286</sup> <https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/annualvehiclerecallssince1996.pdf>

<sup>287</sup> J. Hackett, p. 87

<sup>288</sup> Deposition of Trevor Marble 11/17/2017 (T. Marble), p. 70



there is some understanding that vehicle recalls tend to be relatively common. For instance, none of Ms. Dial's previous vehicles had any recalls; nevertheless, she still conducted some research on vehicle recalls during her vehicle search before purchasing her Buick Enclave.<sup>289</sup> Similarly, Ms. Berken testified that she knew there was a possibility that there could be a recall on her prior vehicle, a Ford F-150, while she owned it, even though there had been no known recalls on her previous vehicles that she knew of at the time.<sup>290</sup>

Information available from NHTSA also indicates to consumers that if a safety defect results in a recall of a vehicle less than ten years old, it will be repaired at no cost.<sup>291</sup> This has, in fact, been the experience of the plaintiffs to date. Regardless of the presence or absence of disclosures, some vehicle owners or lessees would assume that, either way, if an issue arose with their vehicle, a recall would allow for its remedy at no cost. It is unlikely that all members of the putative class would consider information in a disclosure similarly. An individuals' weight or value of a disclosure, as detailed above, would be informed by that individuals' prior experience and knowledge, as well as his/her current goals.

That individual consumers respond differently to safety information and specifically vehicle recalls is further supported by an analysis of NHTSA recall data that showed that on average 70% of vehicles affected by a recall received the remedy within 18 months.<sup>292</sup> These findings illustrate that the level of concern over a potential issue with a vehicle varies from person to person. For example, Ms. Gillispie received the recall notice, but has not had the recall performed.<sup>293</sup> Ms. Berken also received a recall notice after her son had a rollaway incident, but she chose not to take her vehicle to have the recall performed.<sup>294</sup> Instead, Ms. Berken testified that she specifically takes the "necessary steps" to avoid a rollaway in the future, including not releasing the brake and exiting the vehicle until the vehicle is off.<sup>295</sup>

#### Media disclosures and coverage

Alleged issues associated with the monostable gearshift gained public notoriety following the death of actor Anton Yelchin, which was covered widely in the media, despite this occurring about two months after FCA had issued a recall.<sup>296</sup> The continued purchase, lease and/or use of the class vehicles, after the public disclosure of Mr. Yelchin's incident, demonstrates that disclosures about the gearshift would not be seen and responded to uniformly by members of the putative class. Even after encountering such disclosures, not all individuals would be concerned enough to alter their purchase/lease decisions, or even do further research. For example, Ms. Andollo still leases

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<sup>289</sup> K. Dial pp. 82-83, 200

<sup>290</sup> C. Berken, pp. 67, 70, 75, 95, 101, 105

<sup>291</sup> NHTSA, 2011

<sup>292</sup> GAO, 2011

<sup>293</sup> A. Gillispie, pp. 115, 122

<sup>294</sup> C. Berken, p. 196

<sup>295</sup> C. Berken, pp. 169, 196, 273

<sup>296</sup> [https://www.washingtonpost.com/news/arts-and-entertainment/wp/2018/03/22/actor-anton-yelchin-was-crushed-to-death-by-his-suv-his-parents-just-settled-with-fiat-chrysler/?noredirect=on&utm\\_term=.93f03c6c1a95](https://www.washingtonpost.com/news/arts-and-entertainment/wp/2018/03/22/actor-anton-yelchin-was-crushed-to-death-by-his-suv-his-parents-just-settled-with-fiat-chrysler/?noredirect=on&utm_term=.93f03c6c1a95); EA 16-002 Closing Resume, MCPS011946

her vehicle, and may buy it when her lease is up,<sup>297</sup> even though she became aware of Mr. Yelchin's incident since her vehicle's recall in April 2016.<sup>298</sup> Similarly, Mr. Goldsmith recalls seeing press coverage regarding Mr. Yelchin's incident.<sup>299</sup> Despite his knowledge of this event and the allegations of its relationship to the gearshift, if asked about the safety of the gearshift in his vehicle, he would now say that his vehicle has been repaired and is no longer unsafe.<sup>300</sup> Mr. Goldsmith also still owns his vehicle.<sup>301</sup>

In sum, evidence from the deposed plaintiffs' testimony supports the conclusion that consumers would have been unlikely to be uniformly affected by any warnings or disclosures they claim should have been given. On the contrary, the evidence from the deposed plaintiffs' testimonies establishes that some consumers would not have reviewed or processed such information at all, other consumers would have processed the information very differently, and, among the consumers who would have read and processed the information, consumers would assign differing levels of importance to the information.

## Literature Review

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### Human Factors Design Guidelines and Principles for In-Vehicle Information Systems

NHTSA has published human factors guidelines for the design of in-vehicle information systems.<sup>302</sup> This document discusses general principles for the design of auditory and visual information systems based on field and laboratory data, as well as human factors engineering literature.<sup>303</sup> Four of those principles that are applicable to gearshift system design are discussed below.

The first principle cited is: "Be Consistent." According to Green et al. (1995), consistency refers to "consistency of input, consistency of output, and compatibility of input and output with one another." With regards to consistency of input, they state that common functions should always be located in the same place so people do not have to search for them, and that controls and switches with similar responses should have similar actuation motion and that by providing such consistency, the potential for human error is reduced.

The second principle cited is: "Controls and displays should function the way people expect them to function." According to Green et al. (1995), this refers to consistency between a driver's understanding of how something functions versus how something actually functions. Put another way, an agreement between a driver's actions and the methods of operation corresponds with expectancy.

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<sup>297</sup> J. Andollo, pp. 16-17, 39, 274

<sup>298</sup> J. Andollo, p. 200

<sup>299</sup> Deposition of David Goldsmith 05/08/2018 (D. Goldsmith), pp. 119-120

<sup>300</sup> D. Goldsmith, pp. 121

<sup>301</sup> D. Goldsmith, p. 16

<sup>302</sup> Green et al., 1995

<sup>303</sup> Green et al., 1995

The third principle relevant to driver gearshift systems is: “Minimize what the user has to remember.” As an example, Green et al. (1995) provides the following scenario: “suppose a vehicle information system provided a yellow pages business listing function. Forcing the driver to memorize the phone number, step through the interface to the destination entry function, and then key in the phone number of the destination from memory would violate this principle.”

The fourth principle relevant to driver gearshift systems is: “Operations that occur most often or have the greatest impact on driving safety should be the easiest to perform.” In an example provided by Green et al. (1995), “drivers will set the destination each time they use the route guidance system but should rarely need to recalibrate the system. Hence, it is more important that the more frequent destination setting task be easier to do than the recalibration task.”

#### Driver Gearshifting Behaviors

Several scientific studies have shown that shifting into Park is a highly automated behavior in which drivers use rapid ballistic movements.<sup>304</sup> In a study conducted by Harley et al. (2008), 65 adults of all ages operated two vehicles under static and dynamic conditions; one vehicle was equipped with a column-mounted gearshift lever and one vehicle was equipped with a floor-mounted gearshift lever. For approximately 1,000 shifts into Park, experimenters recorded the movements and forces that the drivers applied to the gearshift lever. Data revealed that once drivers began to push the gearshift lever forward towards the Park position, they did not pull the gearshift lever back (away from Park); rather, they shifted in one direction using a single rapid, ballistic motion. Further, when shifting into Park, drivers applied force to the gearshift lever that was well in excess of the minimum force required to reach Park, and they continued to apply force after the gearshift lever reached the Park position.<sup>305</sup> For example, males applied about 16 pounds of force on average when shifting from Drive to Park with the floor-mounted gear shift lever, although only about 5 pounds of force was required.<sup>306</sup> These results suggest that when shifting into Park, drivers rely on the kinesthetic feedback received when the gearshift lever reaches the mechanical stop at the end of the lever’s travel to determine the end of the movement task.

#### Driver Gearshifting Errors

The control processes and behaviors of drivers used during the operation of vehicles have been studied for decades, and the main findings from this research indicate that human errors are the primary contributor to transportation accidents. Specifically, in-depth accident analyses of driver, vehicle, and environmental factors involved in traffic incidents found that some form of driver error (e.g., vehicle handling, driver impairment, etc.) was a causal factor in approximately 95% of vehicular accidents,<sup>307</sup> and have supported the general consensus that driver error is the primary cause of the majority of on-road accidents.

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<sup>304</sup> Harley et al., 2008; Heckman et al., 2009; McCarthy et al., 1982; Shinar et al., 1998

<sup>305</sup> See also McCarthy et al., 1982

<sup>306</sup> Heckman et al., 2009

<sup>307</sup> Treat, 1980; Wierwille et al., 2002; NHTSA, 2015

Drivers produce errors while simultaneously engaged in other attention-demanding activities, such as being in a rush or hurrying. Errors arising from inattention and/or distraction are common contributors to both crashes and near-crashes in general.<sup>308</sup> A study by NHTSA found that inattention was a contributing factor in 78% of crashes and 65% of near crashes, and that distraction was the leading cause of inattention.<sup>309</sup> For automated tasks such as moving a gearshift lever into Park, errors can occur when the program of action is interrupted; e.g., when a driver becomes distracted or preoccupied with something other than the task at hand.<sup>310</sup> When distracted, a driver's attention is focused on the distracting task, whether it be physical or cognitive, and away from the automated driving task, which can typically be successfully executed without conscious monitoring or explicit feedback. Under such conditions, unexpected errors due to factors such as inherent variability in the motor system will go unnoticed.

The occurrence of gearshift-related errors is evidenced by driver survey responses regarding the types of errors individuals make while driving – such as forgetting what gear their vehicle is in.<sup>311</sup> These reports are corroborated by traffic accident data from North Carolina: there were at least 90 reports of rollaway incidents in the state from 2000 to 2003.<sup>312</sup> Note that due to the minimal availability of keyless driving technology at the time, these rollaway incidents likely involved vehicles that had keyed ignitions, in which the driver needed to physically remove a key from the ignition when exiting the vehicle. Hence gearshift errors, and resulting rollaway incidents, occur in both keyed and keyless vehicles, and are not prevented by keyed designs.

To examine the types of gearshifting errors people typically make and under what conditions, the Harley et al. (2008) study documented and recorded gearshift errors as drivers navigated a closed course, parked, exited, and re-entered the vehicle. On *hurried* trials, drivers were encouraged to move as quickly and as safely as possible when exiting the vehicle, and on select *hurried-plus-distraction* trials, the experimenter attempted to distract the driver by introducing an unexpected request to perform an unrelated task or to provide information to another occupant in the vehicle. For shifts into Park, two types of errors were observed: *failure-to-shift* errors were those in which the driver made no contact with the shift lever, and exited with the vehicle in gear; *mis-shift* errors were those in which the driver moved the gearshift lever into a gear other than Park (e.g., from Drive into Reverse instead of into Park), and exited with the vehicle in gear. During the study, three failure-to-shift errors and one mis-shift error occurred when drivers were parking and exiting the vehicle. Two of the errors occurred on hurried-plus-distraction trials. The other two errors occurred on hurried, non-distraction trials; however, in one of these, the driver appeared to be distracted by his own confusion about where to drive next on the closed course. These results demonstrate that under realistic driving conditions, drivers do occasionally make gearshift errors where they either shift into an unintended gear or fail to shift, particularly when hurried or distracted.

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<sup>308</sup> Dingus et al., 2006; Klauer, et al., 2010

<sup>309</sup> Dingus et al., 2006

<sup>310</sup> Harley et al., 2008

<sup>311</sup> Reason et al., 1990; Aberg & Rimmo, 1988

<sup>312</sup> Harley et al., 2008

### Driver Visual Behavior

Vision is the primary source of information when operating a motor vehicle. Some researchers have estimated that as much as 90% of information for the driving task is captured through the eyes.<sup>313</sup> However, drivers are limited in their ability to process all of this information; in other words, they can focus on one or some things, but not all things, at any one time. This selection or prioritization of features is referred to as *attention*, and the process by which gaze is directed and redirected to different locations within the field of view is referred to as *visual search*. Research spanning several decades has established that human visual search is highly task- and situation-dependent, and the context of driving is no exception.<sup>314</sup> Where drivers direct their gaze and/or focus of attention is driven, generally, by such factors as the salience of the information source, the likelihood that it will provide task-relevant information, the costs associated with missing relevant information, and the effort involved.<sup>315</sup>

The primary visual tasks of a driver include maintaining proper vehicle position (e.g., along the road, within the travel lane, and relative to other vehicles) and avoiding collisions. To perform these and other driving-related tasks, drivers direct their gaze to a variety of locations, including to the road ahead, lane and road boundaries, other vehicles, signs or signals, mirrors, and in-vehicle displays and devices. The durations of these glances typically range from approximately 0.25 to under 1 second.<sup>316</sup> Glances to in-vehicle devices specifically—such as the radio, rear-view mirror, and odometer—are nearly always less than 1.6 seconds in duration during on-road driving.<sup>317</sup> Research shows that both the frequency and duration of drivers' glances to particular locations are dependent on the driver's task and demands presented by the situation at hand—e.g., the type of task, roadway environment, traffic conditions, and other factors. For example, the number and/or proportion of glances directed to in-vehicle devices or displays has been shown to vary with the complexity and nature of the in-vehicle task, as well as the cognitive workload of the driver.<sup>318</sup> More recently, a study investigating parallel parking found that the percentage of glances to, and time spent looking at, the instrument cluster increased when the instrument cluster displayed information relevant to the parking task.<sup>319</sup>

Research examining drivers' glances to the gearshift, specifically, is consistent with these more universal findings regarding the influence of task-relevance on driver looking behavior. In an examination of driver visual behavior associated with various backing tasks, Huey et al. (1995) reported generally small average proportions of glances (1.0%) and time spent looking (1.0%) at the gearshift over the entire backing maneuver. However, certain backing tasks—such as backing out of parking spaces—were associated with numerically higher proportions than others—such as extended backing along a roadway.<sup>320</sup> Moreover, across all tasks, the average proportion of glances

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<sup>313</sup> Dewar & Olson, 2007

<sup>314</sup> e.g., Land, 2006

<sup>315</sup> e.g. Horrey et al., 2006

<sup>316</sup> Olson et al., 2010

<sup>317</sup> Sodhi et al., 2002

<sup>318</sup> Wierwille et al., 1993; Recarte & Nunes, 2000; Bhise et al., 2003

<sup>319</sup> Kidd et al., 2017

<sup>320</sup> Huey et al., 1995

to the gearshift was numerically higher when the vehicle first started backing (4.5%) than one second into the backing task (0.6%). More recent research has found similar results. Kidd et al. (2017) investigated glance behavior during two phases of a parallel parking task: (1) an approach phase, during which drivers searched and chose a parking space, that ended when the vehicle was placed in Reverse to begin the maneuver, and (2) a maneuvering phase that began when the vehicle was placed in Reverse and ended when it was placed in Park at the end of the maneuver. With regard to a category of locations that included the gearshift, the results indicate more glances, and more total time spent looking, during the parking maneuver itself compared to the on-road approach phase.<sup>321</sup> Similarly, drivers directed more glances, and spent more total time looking, at the instrument cluster during the maneuver than during approach.<sup>322</sup> While neither of these studies investigated specifically the gearshifting epochs of the driving task, their findings support the general conclusion that driving tasks which commonly rely on operation of the gearshift (i.e., parking maneuvers) are associated with greater visual attention to the gearshift than driving tasks that do not (i.e., on-road driving).

### Warnings and Compliance

Provided that the user is motivated to alter his or her behavior, there are several factors that are associated with increased likelihood of warnings compliance for printed warnings. These are discussed in turn below.

#### **Visual Warnings**

Provided that the user is motivated to alter his or her behavior, there are several factors that are associated with more effective visual warnings. First, presenting safety information in multiple formats or with supplemental sources of information can improve compliance rates when the user is seeking and motivated to comply with the warning.<sup>323</sup> Although repeated viewing of a single warning is associated with decreased alertness, or habituation, to the warning's message, simple changes to the warning, such as presentation of information in alternate formats, has been shown to reduce or eliminate effects of habituation.<sup>324</sup> Second, warnings that are presented only when and where needed are more effective than warnings that are encountered in the absence of the warned-about hazard.<sup>325</sup> For example, one study observed research subjects' use of an extension cord that had a warning label either on an outlet cover that had to be removed before use (i.e., an interactive label), or attached to the cord 5 cm from the outlet.<sup>326</sup> The interactive label was noticed, read, recalled, and complied with more often than the non-interactive label. Fourth, research suggests that the placement of the warnings relative to other information can influence the likelihood that a motivated user who is seeking out warnings will read and comply with them. For example, Strawbridge (1986) asked participants to utilize an adhesive with an accompanying label that either highlighted the warnings and safety information or embedded it within the instructions.

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<sup>321</sup> Kidd et al., 2017

<sup>322</sup> *Ibid.*

<sup>323</sup> Kim & Wogalter, 2009; Conzola & Wogalter, 1999

<sup>324</sup> Kim & Wogalter, 2009

<sup>325</sup> Ayres et al., 1994; Triggs & Harris, 1982; Gordon & Anderson, 2001; Davis et al., 2012; Duffy et al., 1993

<sup>326</sup> Duffy et al., 1993



When the warnings were embedded within the instructions, participants were significantly less likely to notice, read, and comply with the safety information. Strawbridge noted that this decreased likelihood may have been due to a failure to finish reading the warnings, because some participants reported that when they realized they were reading a warning they skipped to the next section.<sup>327</sup> Visual separation of different types of information, even when separated into groups or sections of information, has also been shown to improve processing and memory of such information.<sup>328</sup>

Scientific research on visual safety information has found that, contrary to common belief, other superficial alterations to warnings – such as changing the formatting (e.g., in terms of color) or wording – do not influence its effectiveness in increasing behavioral compliance. To illustrate, one study found that language designed to make labels for infant seats less of an instruction and more of a classical warning (i.e., adding a signal word and including information about the specific hazard and consequences of noncompliance) had essentially no effect on the accuracy of user installation of the infant seats, and installation errors occurred even following strong warnings about installation procedures.<sup>329</sup> Similarly, another study examined the effect of changing the wording and content of a safety belt label found in passenger vehicles.<sup>330</sup> The changes to the label—which included changing the word “important” to “warning” and adding text describing the importance of safety belt use—were not associated with any measurable improvements in rollover or ejection injury rates.

More recent research has specifically examined the influence of ANSI Z535-formatted warnings on behavioral compliance. ANSI Z535 is a series of voluntary standards composed of six documents specifying the formats, colors, and symbols to be used for safety information in various contexts, including on product signs and labels (ANSI Z535.4), and in product manuals, instructions, and other collateral materials (ANSI Z535.6).<sup>331</sup> ANSI Z535 provides a recommendation for how to format and present warnings and safety information. Laboratory studies show that individuals believe ANSI-compliant warnings would be more influential on user behavior than non-ANSI warnings.<sup>332</sup> However, multiple scientific studies have found that the presence, absence, or degree of ANSI Z535 formatting does not influence behavioral compliance.<sup>333</sup> For example, one study compared ANSI formatting against a non-standard format or other standardized formats (i.e., ISO) and found that ANSI and ISO-formatted warnings were read about half as often as the same warning in non-standard format, and did not significantly increase the percentage of participants who complied with the warning as compared to the non-standard

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<sup>327</sup> See also Friedmann, 1988

<sup>328</sup> Rauschenberger et al. 2015

<sup>329</sup> McCarthy et al., 1987

<sup>330</sup> Arndt et al., 1998

<sup>331</sup> ANSI Z535, 2011

<sup>332</sup> Frantz et al., 2005; Shaver et al., 2006

<sup>333</sup> Frantz et al., 2005; Huntley-Fenner et al., 2007; Khan et al., 2013; Shaver et al., 2006

warning.<sup>334</sup> Taken together, these findings argue against the notion that the effectiveness of written safety information is related to its formatting.

### **User Factors in Warnings Compliance**

The purpose of safety information is to alter one's behavior in order to reduce the number of injuries associated with a product or activity. However, scientific studies conducted over several decades indicate that the mere presence of warnings or safety information does not increase compliance or reduce accidents/injury rates.<sup>335</sup> Rather, several conditions must be met in order for safety information to change a person's behavior, such as a written warning. First, the message must be received. This requires the individual to not only seek out the information provided, but also notice and read it. Next, the message must be understood; that is, the individual must comprehend the content of the message. Finally, the individual must act in accordance with the message, which entails the individual being willing to change his or her behavior. Failure to meet any of these conditions will result in a failure of the communication process between the individual and the safety message, and can result in a failure of the warning to produce its intended effect.<sup>336</sup> Thus, user behavior is a significant and inevitable factor in determining safe use of a product, independent of the characteristics and safety information provided with the product.<sup>337</sup>

The scientific literature has documented numerous factors that influence the likelihood of compliance with any type of safety information. First, humans are inherently limited in their capacity to process information, regardless of how distinctive and perceptible that information may be. Consequently, not all environmental stimuli can be perceived by a given individual, and when an individual is engaged in a particular task (e.g., a visual identification task), performance capabilities in other simultaneous tasks (e.g., auditory perception) are reduced. This limitation in processing resources accounts for instances in which individuals with a particular goal or focus of attention fail to perceive otherwise conspicuous and salient stimuli.<sup>338</sup> Even professional pilots can miss conspicuous alarms when performing another cognitively complex task, despite the fact that the auditory information may be safety-critical, presented repeatedly, or presented over a relatively long duration.<sup>339</sup> Findings such as these demonstrate that the listener's attentional state, regardless of how well-designed or useful an alarm or warning is, is an important factor in determining what stimuli are perceived and what effect such stimuli ultimately have on the observer's behavior and understanding of the situation.<sup>340</sup>

With regards to whether a user will review a given visual warning, the level of information gain and compliance with safety information depends on the information processing goal of users.<sup>341</sup>

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<sup>334</sup> Shaver et al., 2006

<sup>335</sup> Heckman et al., 2010; Arndt et al., 1998

<sup>336</sup> Ayres et al., 1994; Rogers et al., 2000; Khan et al., 2009; Young et al., 2005

<sup>337</sup> Krauss et al., 2008

<sup>338</sup> Giraudet et al., 2012; Dehais et al., 2014

<sup>339</sup> Dehais et al., 2014

<sup>340</sup> Khan et al., 2009; Young et al., 2005

<sup>341</sup> deTurck & Goldhaber, 1988; Friedmann, 1988



A user's goals are the primary determinant of whether a visible feature will be noticed<sup>342</sup> or read. For example, in one study, those who had the goal of determining whether a chemical product was appropriate for a certain task sometimes chose to stop reading it when they recognized it as a warning, and skipped ahead to reading about the uses of the product.<sup>343</sup> Similarly, consumers reported reading owner's manuals specifically when they have a question about product use, and then only read the sections which would answer their question.<sup>344</sup>

A person's compliance with safety information also depends upon that person's level of experience with the product or activity in question.<sup>345</sup> The more experienced a person is in using a particular product, the less likely he or she is to heed safety-related information concerning that product because he or she feels the hazard is overstated and that compliance would impose unnecessary burdens.<sup>346</sup> For example, one determinant of whether an owner's manual will be read is whether the user feels he or she already knows how to use the product.<sup>347</sup> The perceived irrelevance of safety information can be exacerbated by a related third factor: previous benign encounters in which the individual has previously engaged in the warned-about behavior without experiencing negative outcomes. Such prior experiences undermine the cautionary message as misplaced or exaggerated because they don't reflect the risk-taker's personal experience.<sup>348</sup>

Finally, a well-studied phenomenon that reduces the effectiveness of safety information is "cost of compliance." Studies of this phenomenon show that people only comply with warnings or instructions if the cost (in terms of money, convenience, time, energy, etc.) is low enough for the individual to believe compliance is worthwhile.<sup>349</sup> For example, a pedestrian may know that crossing the street at a crosswalk would be optimal safety-compliant behavior, but may instead choose to cross mid-block due to the time and energy it would cost to walk to the crosswalk and wait for the signal to change. Data show that when the "cost" increases, even if only slightly, the rate of compliance drops significantly. The effectiveness of safety information – in terms of reducing accidents and injuries – is further reduced by users' willingness to accept risks associated with a non-compliant behavior.<sup>350</sup>

### Reaction Time and Decision-Making

The processing of information from environmental stimuli involves several stages. First, the relevant stimuli are detected via sensory receptors providing information about both the context of the environment and the position and/or movement of the body. Next, stimuli are identified by perceptual processes that indicate their motion and characteristics. The observer then considers this information in the context of the present situation, decides whether the newly-perceived

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<sup>342</sup> Cole & Hughes, 1984; Rauschenberger, 2003

<sup>343</sup> Friedmann, 1988

<sup>344</sup> Leonard, 2001; Showers et al., 1992

<sup>345</sup> Otsubo, 1988; Zeitlin, 1994; Barron et al., 2008

<sup>346</sup> Young et al., 2004; Zeitlin, 1994

<sup>347</sup> Showers et al., 1992

<sup>348</sup> Karnes et al., 1986; Leonard & Hill, 1989; Ayres et al., 1994

<sup>349</sup> Argo & Main, 2004; Dingus et al., 1991; Wogalter et al., 1987

<sup>350</sup> Dingus et al., 1991

information warrants a response, and if it does, determines what response is appropriate. Together, the set of processes related to perception, decision making, and response execution are referred to as the perception-reaction (or response) time (PRT). PRT is commonly measured in scientific experiments from the time that a target stimulus appears to the time that a person initiates his response; for example, PRT is often measured in studies of vehicle drivers from the time that a stimulus enters the vehicle's path of travel to the time that the driver's foot touches the brake pedal. Simple experimental conditions in which a participant is required to make a simple go or no-go decision, such as pressing a button in response to the sudden appearance of a light or tone stimulus, have revealed RTs ranging from 130-300 milliseconds (ms).<sup>351</sup> More complex situations, such as making decisions on how to respond to expected and unexpected hazards while driving, are often between under one second to approximately 2.5 seconds.<sup>352</sup> When time available to respond is limited, drivers' responses are occasionally subject to errors due to a well-known speed-accuracy trade-off in motor response. Scientific studies have established that faster responses (i.e., shorter response times) tend to be less accurate.<sup>353</sup> Conversely, when more time is available to respond, individuals are more likely to take additional time to respond.

## **Review of Plaintiffs' Human Factors Expert Report**

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In Plaintiffs' Human Factors expert Dr. Craig Rosenberg's report, he describes data collected from 31 participants on their shifting behaviors in both a monostable-equipped 2015 Jeep Grand Cherokee and polystable-equipped 2019 Jeep Cherokee.<sup>354</sup> Participants were first given at least 10 minutes to become familiar with the vehicle, first either with the Grand Cherokee or the Cherokee, counterbalanced across participants.<sup>355</sup> They were then asked to complete three front-end parking tasks, three 3-point turns, and a series of seven gear shift maneuvers while the vehicle was stationary.<sup>356</sup> After each task the participant was asked to rate the ease of use and experience using the shifter, and at the end of all of the tasks in the vehicle, a paper survey regarding their experience using the shifter was also completed.<sup>357</sup> Participants then completed the same procedure with the second vehicle.<sup>358</sup>

The gear selection behaviors described as errors by Dr. Rosenberg, included "overshoots" (shifting past intended gear), "undershoots" (stopping shifting motion early), "can't tell in correct gear" (reaching intended gear, pausing, then moving shifter again), "wrong direction" (shifting in the wrong direction to reach intended gear), and "wrong gear" (believing they are in a different gear

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<sup>351</sup> e.g., Schmidt & Lee, 2005; Jaskowski et al., 1994; van der Lubbe et al., 2001; Henry & Rogers, 1960

<sup>352</sup> e.g., Schweitzer et al., 1995; Fambro et al., 1998

<sup>353</sup> e.g., Ayres & Kubose, 2012

<sup>354</sup> Rosenberg Report, pp. i, 30

<sup>355</sup> Rosenberg Report, p. 20

<sup>356</sup> *Ibid.*

<sup>357</sup> Rosenberg Report, p. 21

<sup>358</sup> *Ibid.*

than the current gear and continuing with driving task).<sup>359</sup> Dr. Rosenberg observed the errors as they occurred during the study. After the study, his colleague, Dr. Erika Miller, characterized the errors from the video data.<sup>360</sup> Dr. Miller compared her data with Dr. Rosenberg's notes, and they "reviewed any of the tasks as needed together."<sup>361</sup> Furthermore, the error criteria differed by individual participant characteristics; for example, some participants shifted in fluid motions – stops and pauses were marked as errors for those individuals. However, some participants shifted one gear at a time – their pauses were not considered errors.<sup>362</sup> No details were provided with respect to how the distinction was drawn between fluid motion and one gear at a time participants.

Based on these data, Dr. Rosenberg concludes that more errors occur in the monostable compared to the polystable gearshift, and that the monostable gearshift is "unintuitive, difficult to operate, and does not provide adequate tactile or visual feedback."<sup>363</sup> He states that, with the monostable shifter, "drivers are likely to have excessive unintended gear selection errors, spend more time shifting, and allocate more attention to verify that they are in their intended gear."<sup>364</sup> He concludes that increasing more attention to gearshifting can draw attention away from the roadway and result in reduced situational awareness.<sup>365</sup>

**Defining and Coding Errors.** Dr. Rosenberg's approach to coding errors is unscientific, subjective, and does not provide an objective measure of an individual's ability to properly and safely use a shifter. Dr. Rosenberg fails to adequately operationally define and describe how behaviors were classified and coded into errors. As an example, an undershoot is described as "doesn't move shifter far enough into intended gear" or "stopped shifting motion too early."<sup>366</sup> Dr. Rosenberg fails to detail what "too early" is, or at what point it was decided that a user had stopped shifting prior to entering the intended gear. Additionally, if a participant was intending to shift from Park to Drive but paused in Neutral for two seconds and ultimately reached Drive, it is unclear if that would be coded as an undershoot or as a successful shift. It is also not clear how that coding would change if the length of the pause were longer or shorter. In that scenario, the participant would have successfully reached Drive, and it is subjective whether their pause in Neutral would be considered an "error," an "undershoot," or just a reflection of their typical shifting behavior. In addition, in open-ended tasks like three-point turns and parking tasks, Dr. Rosenberg fails to describe how the intended gear of the participant was determined by the experimenters. For instance, if a participant decided to make an extra Reverse or Drive maneuver that was valid in order to complete the task, it is unclear if Dr. Rosenberg coded that as an error or if he allowed for individual differences in successful participant performance.

Despite having the shifting behavior observed by multiple people (i.e., Dr. Rosenberg and Dr. Miller), there is insufficient information on how any conflicting coding was resolved. It is not known what instructions Dr. Miller received to categorize the behaviors from videos. The lack of

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<sup>359</sup> Rosenberg Report, pp. 22-23

<sup>360</sup> Rosenberg Report, pp. 23-24

<sup>361</sup> Rosenberg Report, pp. 24, 28

<sup>362</sup> Rosenberg Report, p. 24

<sup>363</sup> Rosenberg Report, pp. i, 34

<sup>364</sup> Rosenberg Report, p. i

<sup>365</sup> Rosenberg Report, p. i

<sup>366</sup> Rosenberg Report, p. 22

an operationally defined shifting behavior classification, allows, and makes likely, the introduction of subjective variability due to differences in the person coding the data. [REDACTED]

[REDACTED] Without an explicitly defined coding scheme that provides discrete definitions of behaviors, the errors counted by Dr. Rosenberg in his report are unreliable, subjective, and unscientific.

**Potential for Overestimation of Error Rates.** The limited detail provided by Dr. Rosenberg with respect to his error coding scheme illustrates how the error rates he identified are unclear at best, and likely inflated. Per his coding scheme, a single behavior can be coded as multiple errors. For example, beyond overshoots and undershoots, Dr. Rosenberg also coded “wrong gear” or “wrong direction.” These latter two categories can include overshoots or undershoots. Having these error types categorized as separate classifications results in potential double-counting and inflation of errors. For instance, on a given trial where a participant shifts in the wrong direction, and stops in a gear before the intended gear, that could yield a classification of both “undershoot” and “wrong direction.” There is insufficient detail provided to determine how, or if, Dr. Rosenberg addressed this source of error overcounting.

Additionally, the lack of a formal objective error coding classification allows for inconsistencies in identifying and counting errors when participants require multiple actions to reach the desired gear. Based on Dr. Rosenberg’s raw data, several participants were judged as having multiple co-occurring undershoots and wrong direction “errors” within a single shifting attempt. It appears that in certain cases, Dr. Rosenberg counted multiple errors for the single shifting attempt, however, it is unclear what, if any, criteria were used to decide exactly what actions within a shift would count as discrete and what actions would be considered part of a larger single action (i.e., shift). For instance, a review of video data for Subject 1 showed that while shifting from Reverse to Park, he/she made multiple shifter movements before reaching the desired gear. Dr. Rosenberg identified a total of 5 errors: 2 undershoots, 2 wrong directions, and a “can’t tell gear” all within this single shifting task.<sup>367</sup> In addition the subjective nature of this type of error coding as mentioned above, counting errors in this manner limits the ability to generalize these results to other datasets that employ different and more clearly defined coding structures. For example, if another study classified behavior like that of Subject 1 in the example above as a single error, then that study would yield vastly different error rates than Dr. Rosenberg’s study even though the behaviors would be identical. This underlies the importance of an objective, clearly defined coding structure, which is missing from Dr. Rosenberg’s study.

**Different Rates of Error Types.** Among the errors that were coded within one of the shifting tasks for the monostable shifter, Dr. Rosenberg found the most errors in shifting from Park to Neutral and Park to Drive.<sup>368</sup> The fewest errors were found in the Neutral to Park and Reverse to Park shifts.<sup>369</sup> Shifts to Park are arguably the most safety-critical shifts given that they involve securing the vehicle. Despite the fact that Dr. Rosenberg’s coding scheme inflated the number of errors participants committed, these safety-critical shifts showed the greatest rate of success.<sup>370</sup>

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<sup>367</sup> Rosenberg Raw Data (EXP\_ROSEN\_000015) Tasks Worksheet

<sup>368</sup> Rosenberg Report, p. 38

<sup>369</sup> *Ibid.*

<sup>370</sup> Rosenberg Report, p. 39

This finding from his own data undermines Dr. Rosenberg's argument that the monostable shifter was difficult to use; these data show that participants were most successful in the kind of shift that is necessary to secure the vehicle and prevent a rollaway event.

**Classification of Shifting Behaviors.** There is no explanation or operational definition of how participants were categorized into "fluid" versus "one-gear-at-a-time" shifters or what, if any, objective criteria were used for that categorization. The same behavior (e.g., pausing at a gear) was counted differently across these two groups of individuals, meaning that coding was subjectively and inconsistently applied across participants. It is typical practice in the social sciences to apply the same coding scheme consistently across the data.<sup>371</sup> This lack of consistency contributes to the artificial inflation and unreliability of the errors counted by Dr. Rosenberg. Without an objective means of categorizing these participants into a specific group (if that would even be an appropriate distinction with respect to overall shifting performance), and without an objective and consistently applied system of coding, the errors described in the report are subjected to the biases of Dr. Rosenberg and Dr. Miller.

**Participants' Frequency of Driving.** Dr. Rosenberg's recruitment of participants was not consistent with his own stated criteria and do not represent either the named plaintiffs or the putative class. Dr. Rosenberg claimed that the study included participants that drove at least 7,000 miles per year, but the data show the participants reported driving between 17 to 400 miles a week, with a mean of 179.6 miles per week (SD 119 miles).<sup>372</sup> This mean yields approximately 9,300 miles per year (SD 6,200 miles), showing that a substantial portion of participants fall under the 7,000 miles per year recommended by the NHTSA Distraction Guidelines.<sup>373</sup> This suggests that Dr. Rosenberg's participants may not represent individuals who drive regularly. Furthermore, it is unclear whether these guidelines would even be applicable to guide subject recruitment for the study.

**Differences Between Test Participants and Named Plaintiffs.** There is no evidence that any of the participants in Dr. Rosenberg's study would have purchased, or considered, class vehicles. Dr. Rosenberg reports four participants owned a vehicle with a monostable shifter in the past, but no additional details are provided as to what type of monostable shifter each participant was referring to or even if the participants were correct in identifying their shifter as monostable. Additionally, simply having a vehicle with a monostable shifter does not necessarily mean that the vehicle is one of the class vehicles or that the gearshift is of the same design. It is unclear in what way Dr. Rosenberg's participants represent the named plaintiffs or putative class members. Furthermore, as described above, Dr. Rosenberg's participants showed greater success shifting to Park as compared to other shifts with the monostable shifter.<sup>374</sup> Given that many of the plaintiffs' alleged rollaway incidents involved alleged difficulties shifting to Park, it is unlikely that Dr. Rosenberg's participants are representative of the named plaintiffs.

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<sup>371</sup> e.g., Heyman et al., 2014

<sup>372</sup> Rosenberg Report, pp. 8, 30

<sup>373</sup> Boyle et al., 2013

<sup>374</sup> Rosenberg Report, p. 39

**Expert Participant Recruitment.** Dr. Rosenberg’s recruitment of participants with previous monostable experience was flawed. Eleven participants were considered as having experience with the monostable shifter.<sup>375</sup> Out of the eleven participants, nine responded “yes” to the question “Have you ever driven a vehicle with a Monostable shifter?”, and two additional participants reported driving a vehicle “known to have a monostable shifter” despite answering “no” to that question.<sup>376</sup> Dr. Rosenberg provides no indication of how he verified that the vehicles the participants reported driving had a monostable shifter. Participants were asked to indicate their vehicle make, model, year, and whether it was an automatic or manual transmission.<sup>377</sup> This is not enough information to determine whether a vehicle is equipped with a monostable shifter, as the specific shifter in a vehicle can vary within a model year by other features such as engine size.<sup>378</sup> Furthermore, Dr. Rosenberg’s methodology and participant recruitment means that even individuals who have had only a brief exposure (e.g., one test drive, drove a rental car, etc.) to a monostable shifter (not necessarily the class shifter) are grouped together with individuals who have extensive experience with the monostable shifter. The result is a heterogeneous group of “experienced” participants, some of whom may have had quite limited exposure to the shifter and thus would be expected to perform differently than those who own and regularly drive a vehicle with the shifter.

Dr. Rosenberg’s data do not show differences in the mean number of shifting errors between the groups with and without “experience” with the monostable shifter, and he argues that they both show similarly higher rates of errors with the monostable shifter compared to the polystable shifter.<sup>379</sup> However, Dr. Rosenberg cannot rule out that the group with experience does not in fact have substantially (or any) greater experience than the group without experience. This is not a valid comparison of experienced and naïve users and does not capture behavioral differences due to experience with the monostable shifter.

**Comparison Vehicle.** Finally, Dr. Rosenberg used a 2019 Jeep Cherokee<sup>380</sup> with a polystable shifter to compare to the 2015 Jeep Grand Cherokee with the monostable shifter. Dr. Rosenberg claims that the slight differences between the vehicles were negligible, though provides no evidence as to whether and how the 2019 vehicle is similar or different to the 2015 Jeep Grand Cherokee.<sup>381</sup> Dr. Rosenberg claims that the polystable is a typical standard gear shifter that is common across current vehicles, but fails to describe which vehicles he evaluated to make that determination.<sup>382</sup> Furthermore, the 2019 Jeep Cherokee was not yet on the market when the named plaintiffs purchased or leased their vehicles, its gearshift was not available for installation in the class vehicles, and thus it would not have been a possible alternative choice.

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<sup>375</sup> Rosenberg Report, p. 33

<sup>376</sup> *Ibid.*

<sup>377</sup> Rosenberg Report, p. 111

<sup>378</sup> Monostable Equipped Vehicle Table

<sup>379</sup> Rosenberg Report, pp. 39, 40

<sup>380</sup> On November 12, 2018, Exponent examined an exemplar 2019 Jeep Cherokee. The inspection confirmed the presence of visual and auditory warnings for out-of-Park and gear-shifting conditions. The selected gear is indicated both on the dashboard and on the left side of the gear shifter itself.

<sup>381</sup> Rosenberg Report, p. 18

<sup>382</sup> *Ibid.*



In summary, the numerous methodological issues, including the failure to use appropriate scientific procedures, render the conclusions drawn in Dr. Rosenberg's report as untenable and inconsistent with accepted practices in the behavioral sciences. Furthermore, Dr. Rosenberg has failed to show how any of his participants are representative of the named plaintiffs or putative class.

## **Gearshift Behavior Study**

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### Background

We conducted a study in order to evaluate typical gearshift behavior among drivers with experience in specific vehicles with various types of gearshifts. We studied participants' gear shifting behaviors as they operated the vehicles listed in **Table 2**. Participants were told that the purpose of the study was to better understand typical driving behavior and how drivers operate a vehicle on a closed course. They were naïve to our interest in gear shifting behavior, as well as to the fact that we were recording movement data (i.e., force and time) directly from the gearshift lever. Finally, participants were never told *how* to move the gearshift lever; they were told simply to operate each vehicle as they would under normal driving conditions, in vehicles with which they have experience.

### Methods

**Participants.** Sixty people (27 male; 33 female) ages 25-64 participated in our study. Each of these participants were pre-screened to ensure they had valid driver's licenses and regularly drove the vehicles listed in **Table 2**, as defined by at least once per week.<sup>383</sup> These participants were not novices with respect to the gearshift and had regular experience driving the test vehicles equipped with the same gearshift. Participants were told the purpose of the study was to observe normal on-road driving behavior, and were otherwise naïve to the specific purposes of the study. Protocol procedures were reviewed and approved by Exponent's Institutional Review Board (IRB) and drivers were required to read and sign an informed consent and the test track rules prior to testing. Participants were compensated for their study time. They were recruited using the recruiting agency, 9 a.m. Services and from Craigslist.

**Vehicles.** Five vehicles were used in our study (**Table 2, Figure 5**): 2009 BMW 550i, 2013 Chrysler 300, 2015 Ford Explorer, 2015 Jeep Grand Cherokee, and 2014 Volvo S60. The 2013 Chrysler 300 and 2015 Jeep Grand Cherokee are class vehicles with the FCA monostable gearshift. The 2014 Volvo S60 was chosen as a peer four-door vehicle to the Chrysler 300 and the 2015 Ford Explorer was chosen as a peer SUV vehicle to the 2015 Jeep Grand Cherokee, both of which have mechanical gearshifts. Both of these vehicles have traditional, mechanical gearshifts. The 2009 BMW 550i is equipped with a type of monostable gearshift, and FCA once considered a design similar to this when designing their monostable gearshift.<sup>384</sup>

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<sup>383</sup> Participants regularly drove the same year or similar model year vehicle in **Table 2**, save for the participants who drove the Volvo S60, all of whom drove peer vehicles with similar shifters

<sup>384</sup> J. Bielenda, p. 88

<b>Vehicle</b>	<b>Gearshift</b>	<b>N</b>	<b>Age (mean, SD)</b>	<b>Gender</b>
2009 BMW 550i	Monostable	12	37.3 (9.6)	5 male / 7 female
2013 Chrysler 300	Monostable (FCA)	12	39.5 (7.0)	9 male / 3 female
2015 Ford Explorer	Mechanical	12	41.0 (10.1)	3 male / 9 female
2015 Jeep Grand Cherokee	Monostable (FCA)	12	44.3 (7.7)	6 male / 6 female
2014 Volvo S60	Mechanical	12	42.6 (7.5)	4 male / 8 female

**Table 2. Test vehicles and participant demographics.**





**Figure 5. Test vehicles and corresponding gearshifts.**

**Instrumentation.** Each vehicle was instrumented with strain gauges and a string-potentiometer (string pot) or Linear Variable Differential Transformer (LVDT) linear displacement sensor. The strain gauges were mounted to each gearshift lever in a full bridge configuration allowing measurement of forces in the fore/aft axis. Strain gauges were hidden from the participants' view and did not affect the look, feel, or forces required to move the gearshift in any way. The string pot or LVDT was mounted to the base of each gearshift column and measured the displacement of the gearshift lever. This measurement provided information about the position of each gearshift

lever during data acquisition. For the Jeep, Chrysler, Ford, and Volvo vehicles, the current gear was recorded via the OBD port, which was used to capture gear information that was broadcasting on each vehicle's CANbus (Controller Area Network). For the BMW, gear information was acquired via the voltage signal that illuminates the gearshift lever when a gear is selected. The gear was acquired using voltage because the BMW did not broadcast gear information over the CAN. For both gear acquisition methods, data was acquired at the millisecond level. Force data were acquired using a National Instruments (NI) SCXI-1000 acquisition system. The NI-SCXI utilizes excitation, signal conditioning, analog pre-filtering and data collection (up to 25KHz). The acquisition rate was 100Hz for all vehicles. This gearshift instrumentation allowed us to measure 1) force applied when shifting gears (in pounds), 2) displacement of the gearshift when shifting gears (in inches), and 3) information about which gear was selected. The NI-SCXI acquisition system was running National instruments VI-based VersaDAQ (VDAQ, v3.4.3) software. Both force and displacement were calibrated at the level of the driver's hand/wrist, using the applicable National Institute of Standards and Technology (NIST) standards. Each gearshift lever was calibrated using a portable NIST-calibrated sensor that was deployed for calibration in each vehicle, and then removed prior to testing.

Video data were collected via four GoPro cameras positioned within the vehicle. These cameras captured four views: 1) the dashboard, including information related to which gear was selected, 2) the view outside the windshield, 3) the driver seated in the driver's seat position, and 4) the gearshift. (**Figure 6**).

## **Procedure**

Testing took place at Exponent's Test and Engineering Center in Phoenix, AZ, on a closed two-mile two-lane test track. The test track was split into two halves, with two participants running simultaneously on each half of the track (**Figure 7**). The two track halves were counterbalanced across vehicles.



Camera 1: Dashboard



Camera 2: Windshield



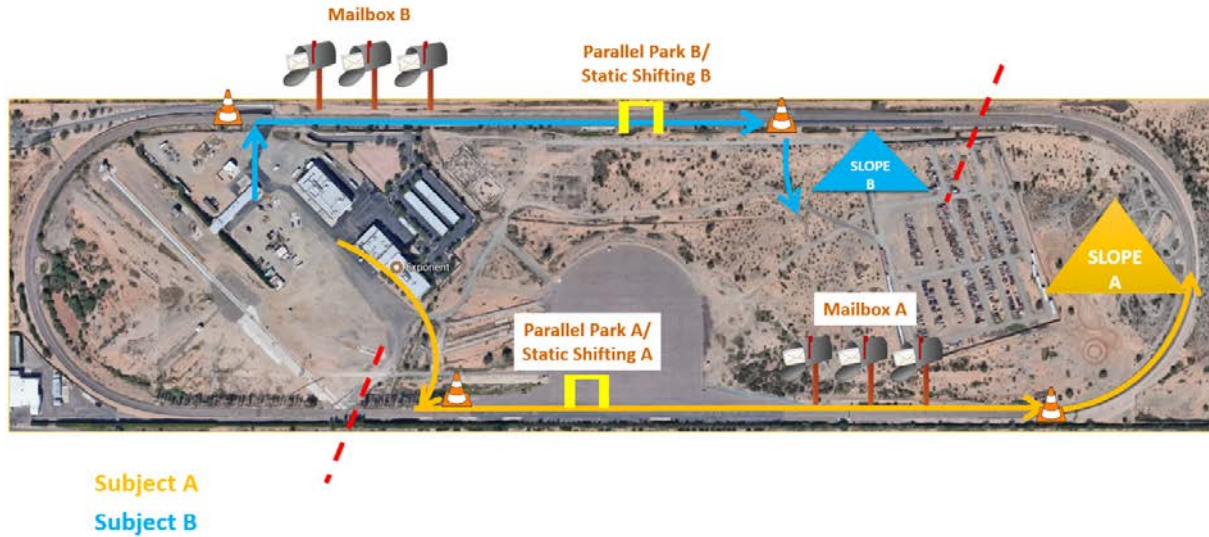
Camera 3: Driver



Camera 4: Gearshift



**Figure 6. Go Pro Setup in Vehicles.** Four Go Pros were placed in each vehicle to monitor the 1) dashboard, 2) windshield, 3) driver, and 4) gearshift throughout the study. Pictured is the set up in the Jeep Grand Cherokee.



**Figure 7. Test Track Setup.** Diagrammatic representation of test track, and placement of various tasks. Note: the diagram is not to scale.

Each participant was assigned to the corresponding vehicle that they reported to drive regularly. We first administered a consent form to the participant, and verified the vehicle make and model that they regularly drive. We then introduced the subject to the vehicle and probed them to ensure everything in vehicle seemed familiar to them, including the gearshift. The participant was then instructed to adjust the mirrors and ensure they were comfortable in their seat. After turning on the Go Pros, the experimenter then administered a driver eye calibration to assist with our eye glance analysis (described in more detail below), and then the driving protocol. A full session lasted for 30-40 minutes for each participant.

Two experimenters were present during each participant's session. One experimenter sat in the front passenger seat of the vehicle and administered instructions to the participant throughout the duration of the session. The second experimenter sat in the back seat, and was responsible for operating the VDAQ software to measure gearshift movement.

The full session consisted of the tasks described below (for order of tasks, see **Table 3**; for photographs of tasks, see **Figure 8**):

*Static Shifting Task.* In this task, the experimenter instructed the participant to first put his or her hands on the steering wheel with the vehicle in Park. The experimenter then instructed the participant to change gears one at a time; as the experimenter said each gear out loud, the participant was to move the gearshift into that gear, and then place both hands on the steering wheel. The experimenter instructed the participant to keep his or her foot on the brake at all times. The instructed gears for this task were: Drive, Neutral, Park, Neutral, Reverse, Neutral, Park, Reverse, Park, Drive, Neutral, Drive, Reverse, Drive, and Park. This task was conducted twice: once at the start of the session, and once in the middle of the session.



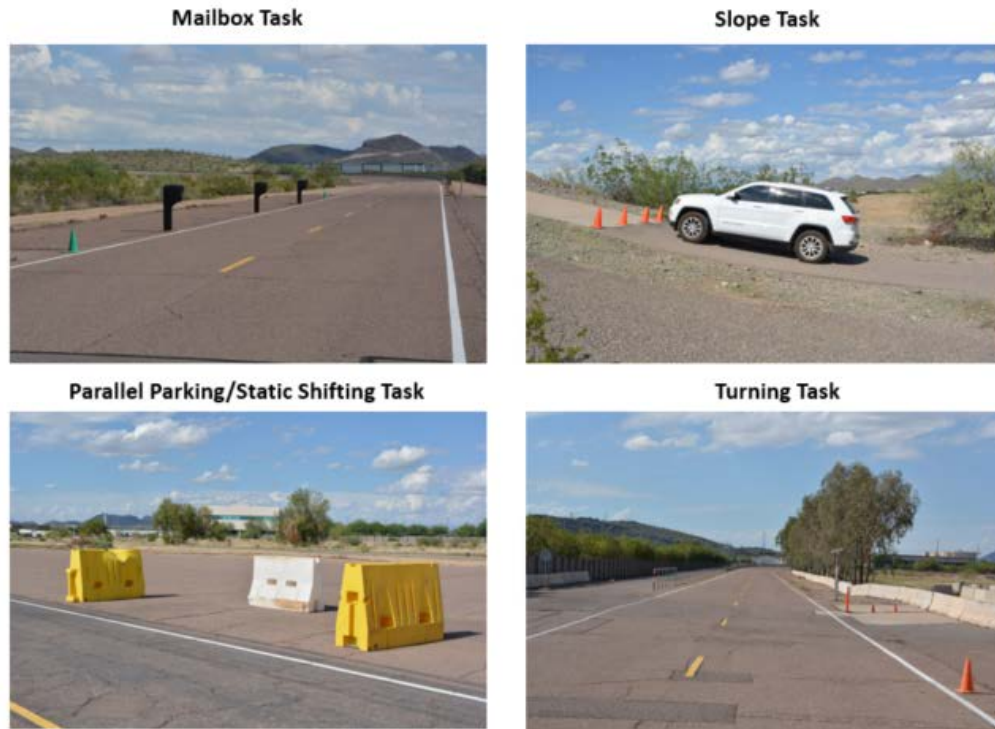
*Parallel Park Task.* In this task, the participant was instructed to parallel park the vehicle in between two barriers, and to place the vehicle in Park with both hands on the steering wheel when finished.

*Slope Task.* In this task, the experimenter instructed the participant to first stop the vehicle in front of a cone at the bottom of a slope, with the vehicle in Park and both hands on the steering wheel. The participant was then asked to drive up the slope until the vehicle reached another set of cones, and place the vehicle in Park, and place both hands on the steering wheel. The participant was then asked to reverse the vehicle down the slope, and to stop the vehicle at the original cone where the task began, and to place the vehicle in Park with both hands on the steering wheel.

*Mailbox Task.* In this task, the participant was told that he or she would be delivering mail to three mailboxes as quickly as possible, with the incentive that if done faster than previous participants, he or she would win extra money at the end of their session. The participant began at a cone located approximately 30 feet from the first mailbox. The participant was told that he or she would drive the vehicle up to the first mailbox, put the vehicle into Park, open the driver's front side window, deliver a piece of mail into the mailbox, roll up the window, and then continue to the next mailbox. After delivering mail to all three mailboxes, the participant was asked to drive to a cone located approximately 45 feet from the final mailbox, put the vehicle in Park, and place both hands on the steering wheel. The participant was then asked to reverse the vehicle, and retrieve the mail from all three mailboxes, again placing the vehicle in Park and rolling the window down for each mailbox. The task concluded once the driver returned to the starting cone with the vehicle in Park and both hands on the steering wheel.

*Turning Task.* For a total of six times throughout each session, the participant was asked to turn the vehicle around while attempting to stay within the two white fog lines delineating the outside of the two lanes of the track (participants were not limited to a three-point-turn and could go forward and in reverse as they desired). The participant was told to place the vehicle in Park with both hands on the steering wheel when complete.

For each of the above tasks, the participant was given the instructions at the start of each task, and was not reminded of the rules throughout the duration of that particular task. During the Mailbox Task, the participant was reminded to place the vehicle into Park when stopping at a mailbox if he or she forgot to do so. For the Turning Tasks, the participant was read instructions prior to each individual turn. In addition to the tasks described above, we also measured gearshift behavior when the participant initially backed out of the parking bay as well as when they parked at the end of their session.



**Figure 8. Photographs of track setup.** Photographs of the mailbox task, slope task, parallel parking and static shifting task, and turning task. Note that these photographs are all from Track side “A”; the setup was identical on Track side “B.”

Video data were collected throughout the entirety of the session, and gearshift data were collected during the following tasks in the order listed below for all participants:

No.	Task	Expected Shifts
1	Static Shifting (#1)	P→D→N→P→N→R→N→P→R→P→D→N→D→R→D→P
2	Backing Out of Parking Bay	P→(R→D)
3	Turn (#1)	P→D→R→D(→R→D)→P
4	Turn (#2)	P→D→R→D(→R→D)→P
5	Turn (#3)	P→D→R→D(→R→D)→P
6	Parallel Parking	P→R(→D→R)→P
7	Static Shifting (#2)	P→D→N→P→N→R→N→P→R→P→D→N→D→R→D→P
8	Turn (#4)	P→D→R→D(→R→D)→P
9	Slope	P→D→P→R→P
10	Turn (#5)	P→D→R→D(→R→D)→P
11	Mailbox	P→D→P→D→P→D→P→D→P→R→P→R→P→R→P→R→P
12	Turn (#6)	P→D→R→D(→R→D)→P
13	Parking in Parking Bay	(D→P)

**Table 3. Tasks administered throughout each session.** Parentheses are indicative of shifts that were potentially variable across participants.

Once the participant's session ended, they were asked to fill out a survey on a tablet using Survey Monkey. Participants were asked basic questions about their driving history, and those who drove the Chrysler 300 or the Jeep Grand Cherokee were additionally asked the following question with language similar to the S27 recall disclosure, and were instructed to answer "yes" or "no":

*Consider the following disclosure:*

*"Your vehicle is equipped with a state of the art, fuel efficient eight-speed transmission. The electronic shift lever in this vehicle does not slide like a conventional shifter. Instead, the shift lever is spring loaded and moves forward and rearward, always returning to the center position after each gear is selected. The transmission gear (PRND) is displayed both on the shift lever and in the Electronic Vehicle Information Center (EVIC).*

*As with all automatic transmissions, it is possible that that a driver might shift into a gear other than the intended gear. This vehicle, unlike some other vehicles, is now equipped with an "auto park" feature. If the driver believes he or she has shifted this vehicle into PARK but has actually shifted into another gear, the vehicle will*

*automatically shift into PARK when the driver releases the brake, unbuckles his or her seatbelt, and opens the driver's door.*

*However, as with all automatic transmissions, if the driver believes he or she has shifted into PARK but has actually shifted into another gear, and leaves the car running and releases the brake, but does not unbuckle his or her seatbelt and open the driver's door, the vehicle could have unintended movement. If the driver does not immediately apply the brakes, unintended movement of the vehicle could injure those in or near the vehicle."*

*If you had been provided with the disclosure identified above before you purchased or leased the vehicle, would you still have purchased or leased the vehicle?*

### Results

We evaluated a variety of gearshift behaviors using both the gearshift instrumentation output as well as Go Pro video footage. See **Table 4** for a full description and metrics.

<b>Shifting Behavior</b>	<b>Definition</b>	<b>Tasks Evaluated</b>
<b>Corrected Mis-shift</b>	Shift into the incorrect gear, and then rectifying to enter the intended gear (includes "overshoots")	Static Shifting Tasks, Slope Task
<b>Uncorrected Mis-shift</b>	Shift into the incorrect gear and <i>not</i> rectifying the shift	Static Shifting Tasks, Slope Task
<b>Forget to shift to P</b>	Failure to shift to Park during or at the end of a task	Turning Tasks, Parallel Parking Task, Slope Task, Mailbox Task, Parking Task
<b>Late to shift to P</b>	Task sequence error when shifting into Park during or at the end of a task	Turning Tasks, Parallel Parking Task, Slope Task, Mailbox Task, Parking Task
<b>Time to shift</b>	Time (in seconds) from the initiation until the completion of a shift	Static Shifting Tasks
<b>Force to shift</b>	Maximum force (in pounds) when shifting from one gear to another	Static Shifting Tasks

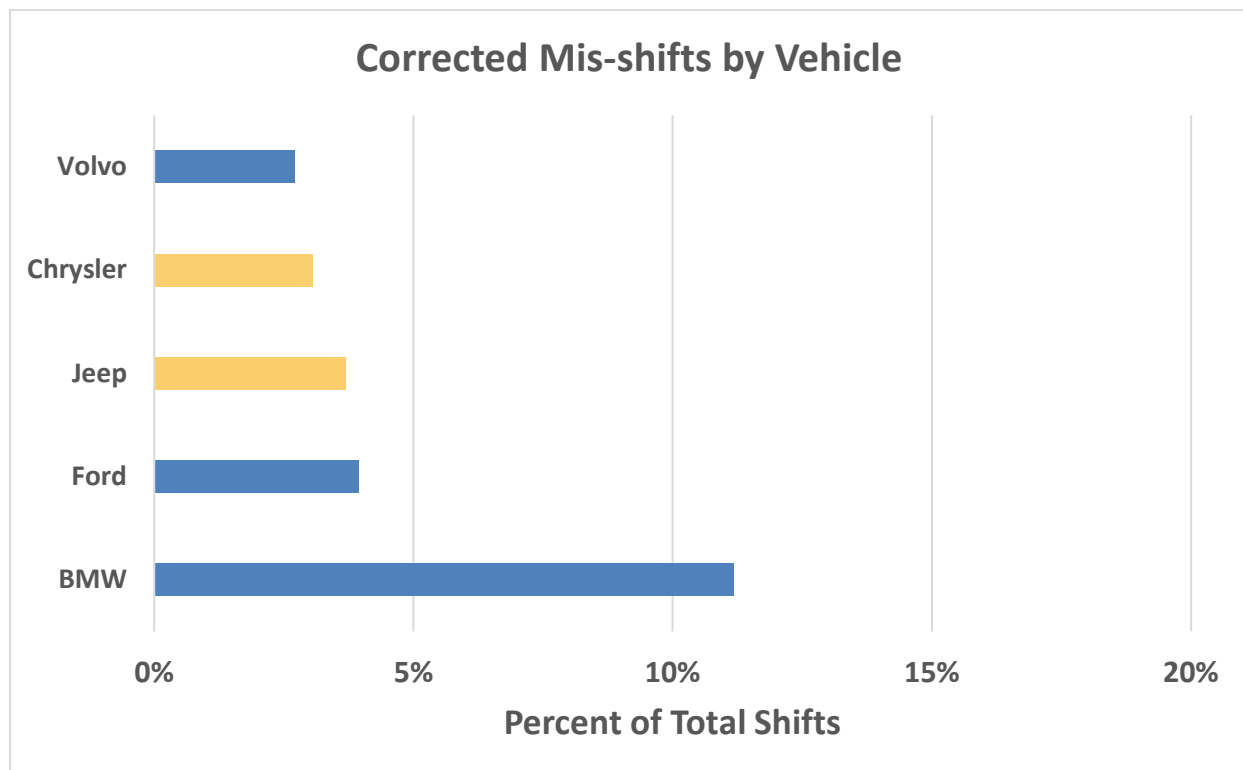
**Table 4. Gearshift behaviors.** Description of evaluated gearshift behaviors.

*Mis-shift Analysis.* For tasks in which the desired gears were explicitly indicated to the participant, we evaluated corrected and uncorrected mis-shifts. This eliminated any subjectivity in our analysis in that we were able to determine with certainty if the participant ever entered an incorrect gear. The tasks in which we evaluated these mis-shifts were the Static Shifting Tasks and the Slope task. (**Table 3**). Corrected mis-shifts occur when a driver either overshoots beyond the intended gear



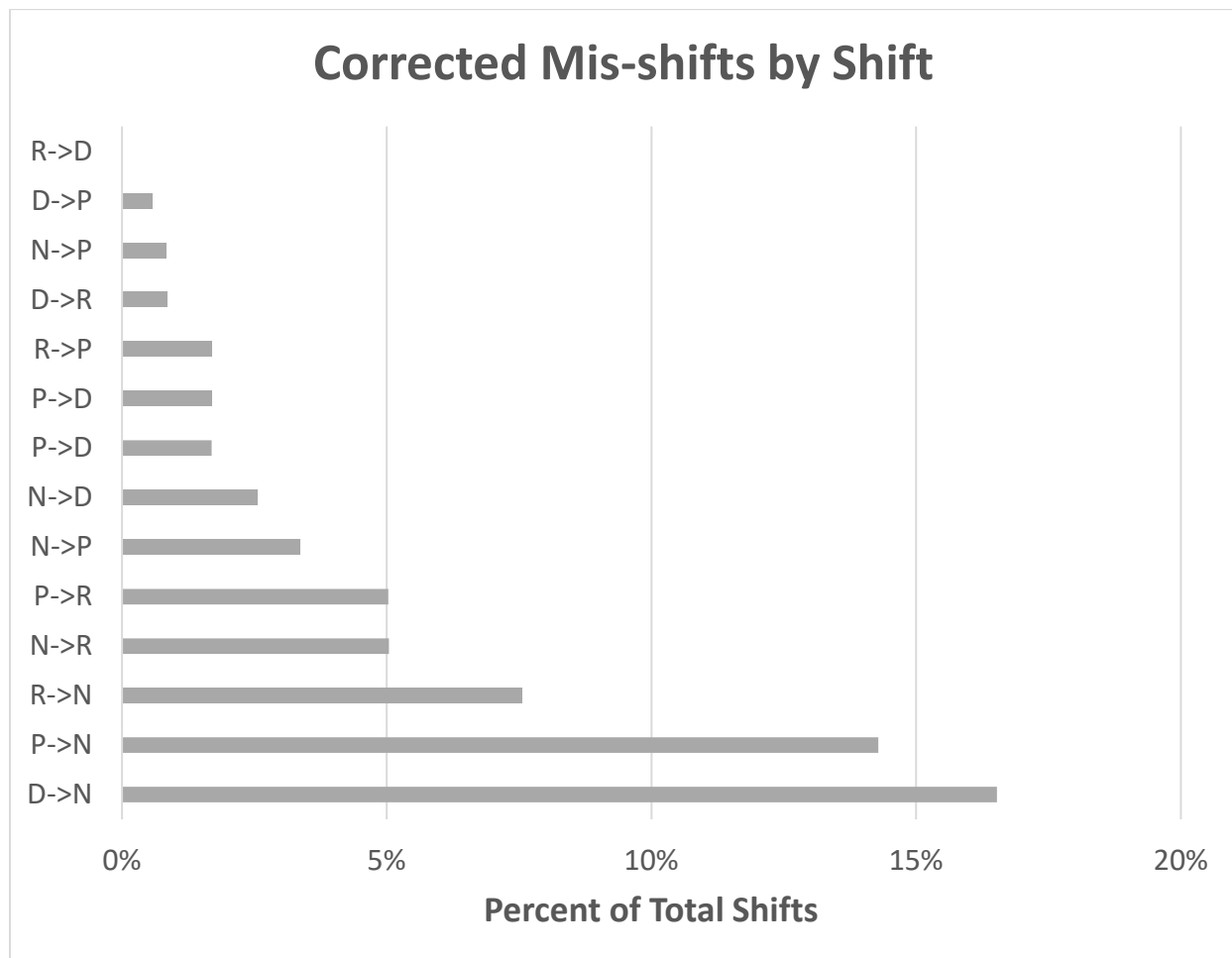
and then rectifies to enter the intended gear, or moves the gearshift in the direction opposite of the intended gear, and then rectifies to enter the intended gear. We evaluated this using the gearshift instrumentation output related to the displacement and gear selection information. When necessary, we verified shifts using the Go Pro video footage taken of the gearshift.

The two Static Shifting Tasks were comprised of 15 shifts, for a total of 30 shifts per participant, and the Slope Task was comprised of 4 shifts per participant. Each participant made a total of 34 shifts that were evaluated for this analysis. Of these, participants driving the BMW had the highest rates of corrected mis-shifts (11.2%), followed by participants driving the Ford (3.9%), Jeep (3.4%), Chrysler (3.1%), and Volvo (2.7%) (**Figure 9**). A chi-square statistical test revealed a significant effect of vehicle type on corrected mis-shifts,  $\chi^2(4, N = 2006) = 42.48, p < 0.001$ . There is no significant difference between the rates of corrected mis-shifts in the Volvo, Chrysler, Jeep, and Ford,  $\chi^2(3, N = 1612) = 1.20, p = .75$ . We found a significant difference between corrected mis-shift rates between the BMW and the Ford,  $\chi^2(1, N = 800) = 15.05, p < .001$ . Note that we did not observe any uncorrected mis-shifts in any of the vehicles.



**Figure 9. Corrected mis-shifts during Static Shifting and Slope Tasks.** All errors presented above are corrected mis-shifts. We observed no uncorrected mis-shifts in this analysis.

When evaluating under what shifting patterns corrected mis-shifts most commonly occur, we found that these behaviors occur most frequently when shifting into Neutral from Reverse, Park, and Drive. They occur less frequently when shifting into Drive and Park (**Figure 10**).

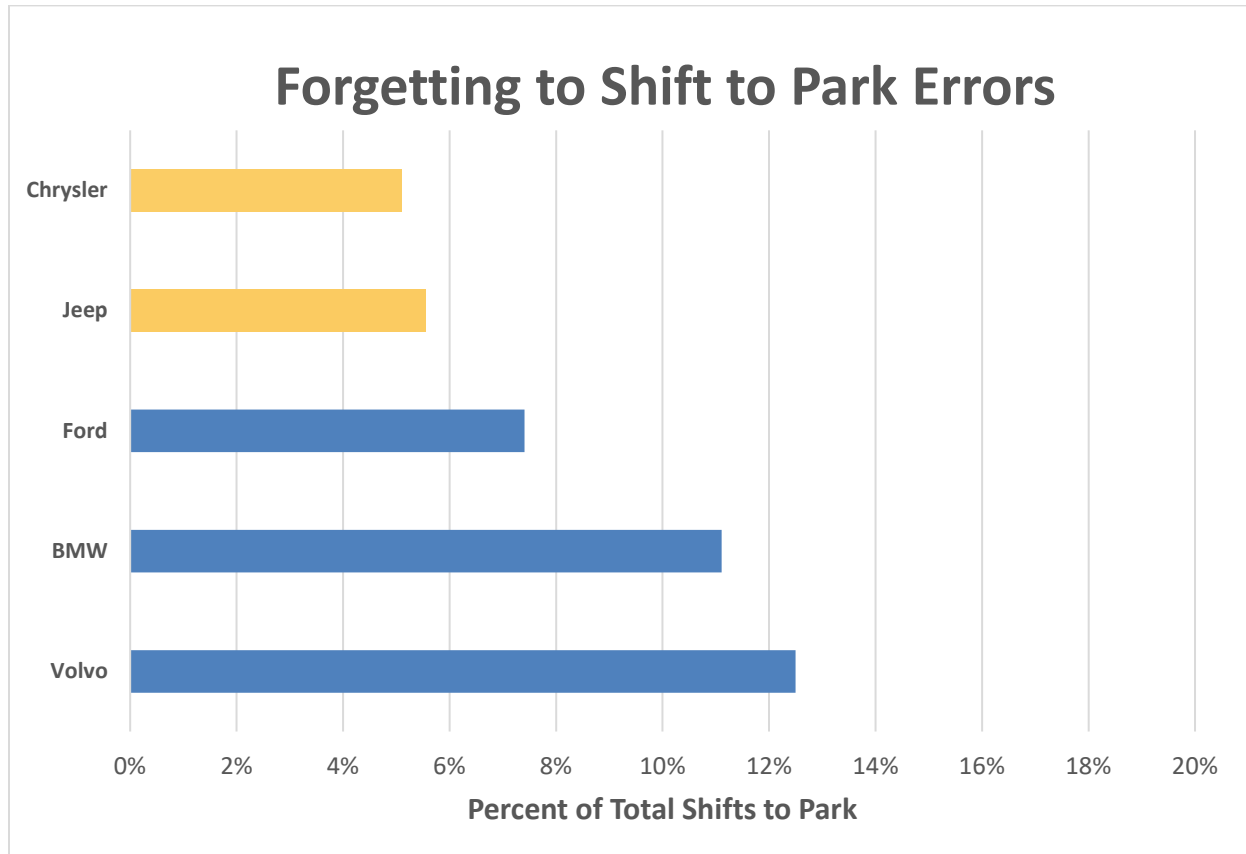


**Figure 10. Prevalence of corrected mis-shifts by shift.** All errors presented above are corrected mis-shifts across all vehicles. We observed no uncorrected mis-shifts in this analysis.

*Forgetting to Shift into Park.* We conducted an analysis to determine rates at which participants forget to shift into Park or are late to shift into Park (e.g., if they rolled down their window prior to shifting to Park during the Mailbox Task). For this analysis, we evaluated shift behavior in the tasks in which participants were instructed to shift to Park during or at the end of the task. This included the Turn tasks (6 shifts), Parallel Parking (1 shift), Slope (2 shifts), Mailbox (8 shifts), and Parking in Parking Bay (1 shift). Each participant made a total of 18 shifts that were evaluated for this analysis.

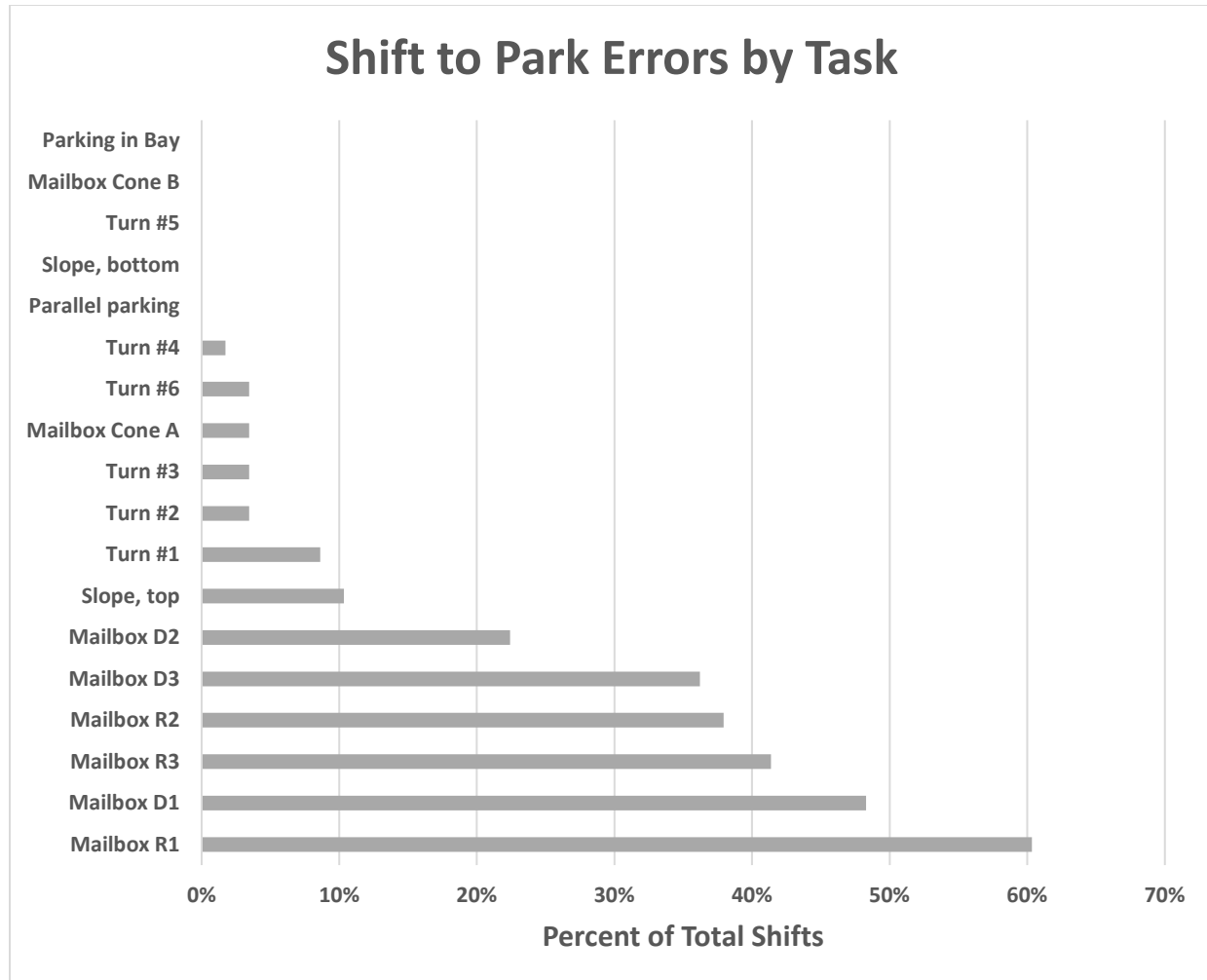
Participants driving the Volvo had the highest rates of forgetting to shift into Park (12.5%), followed by participants driving the BMW (11.1%), Ford (7.4%), and Jeep (5.6%) and Chrysler

(5.1%) (**Figure 11**). A chi-square statistical test revealed a significant effect of vehicle type on forgetting to shift,  $\chi^2(4, N = 1080) = 12.48, p < 0.05$ . We also found variability across vehicles in being late to shift into Park. Participants driving the Ford had the highest rates of being late to shift into Park (9.3%), followed by participants driving the Chrysler (7.4%) and BMW (7.4%), Volvo (5.6%) and Jeep (4.2%). A chi-square statistical test, however, did not reveal a significant effect of vehicle type on being late to shift,  $\chi^2(4, N = 1080) = 5.23, p = 0.26$ .



**Figure 11. Forgetting to shift to Park Errors by Vehicle.** Percent of total shifts to Park that contain forgetting to shift errors across vehicle types.

When evaluating under what shifting patterns forgetting and being late to shift into Park errors most commonly occur, we found that these behaviors occur most frequently during the Mailbox Task (**Figure 12**). They occur less frequently during the Turning Tasks and Parking in the Parking Bay.

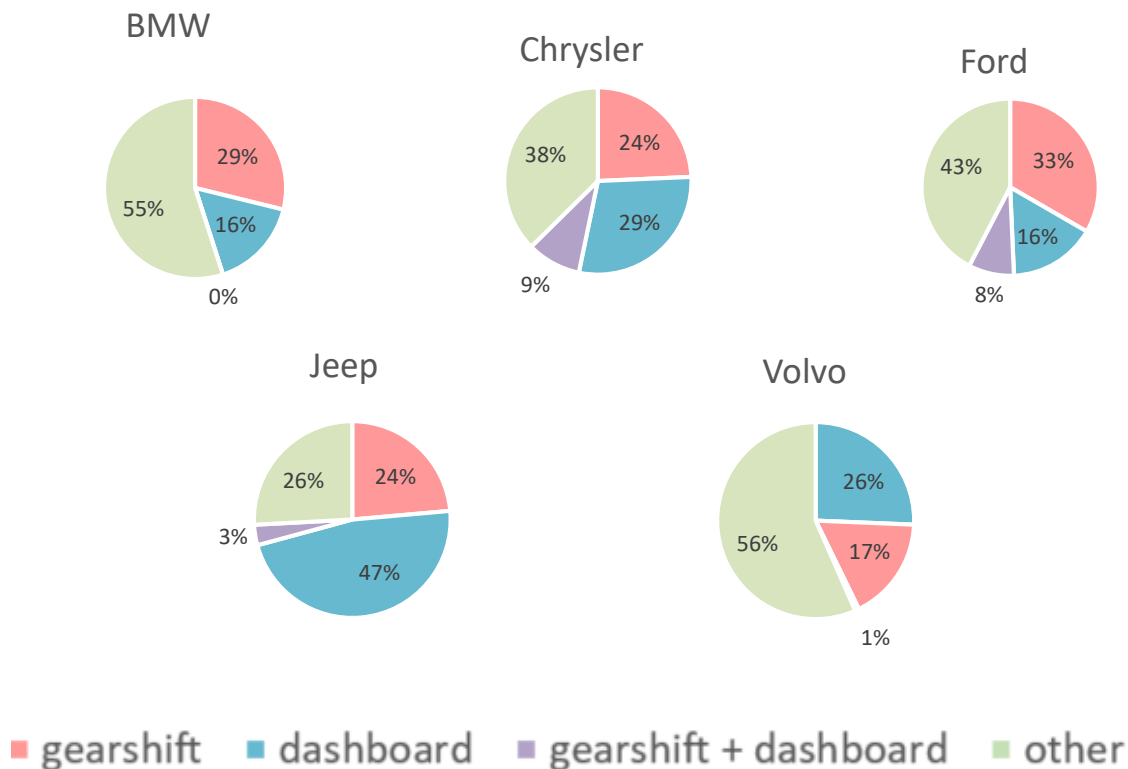


**Figure 12. Shift to Park Errors by Task.** Forgetting to shift and being late to shift errors across various tasks. Mailbox D1-D3 and R1-R3 refer to the three mailboxes as they are approached in Drive or Reverse; Mailbox Cone A refers to the cone at the far end mailboxes, and Mailbox Cone B refers to the cone at the beginning of the mailboxes and the endpoint of the Mailbox Task.

*Eye gaze behavior.* We conducted an analysis to evaluate where drivers look when being instructed to shift into Park. At the beginning of each participant's session, we conducted a calibration in which we had the participant look in a variety of locations including the dashboard where the gears are displayed as well as the gearshift. Using this, we were able to evaluate where a driver was looking when putting the vehicle into Park. We categorized the driver's glance as looking at the

1) gearshift, 2) dashboard (where the gears are displayed), 3) both the gearshift and the dashboard, or 4) other (looking out the windshield, outside the driver's side window, etc.).

We found variability in where drivers look when instructed to shift into Park across all vehicles, in that drivers look at the gearshift, dashboard, as well as other locations such as out the windshield or out the driver's side window (**Figure 13**). We conducted a preliminary analysis to investigate whether there are differences in eye glance behavior during successful shifts to Park versus those in which errors are made, and found that when forgetting to shift to Park or being late to shift to Park, nearly all eye glances (94%) across vehicle types were to other locations and not at the gearshift or dashboard. Many of these errors occurred during the Mailbox Task and drivers were looking out the window or at the front passenger to retrieve the envelope.



**Figure 13. Eye glances when instructed to shift into Park.** Eye glance locations during shifts to Park across vehicles. Percentages represent proportion of total shifts to Park.

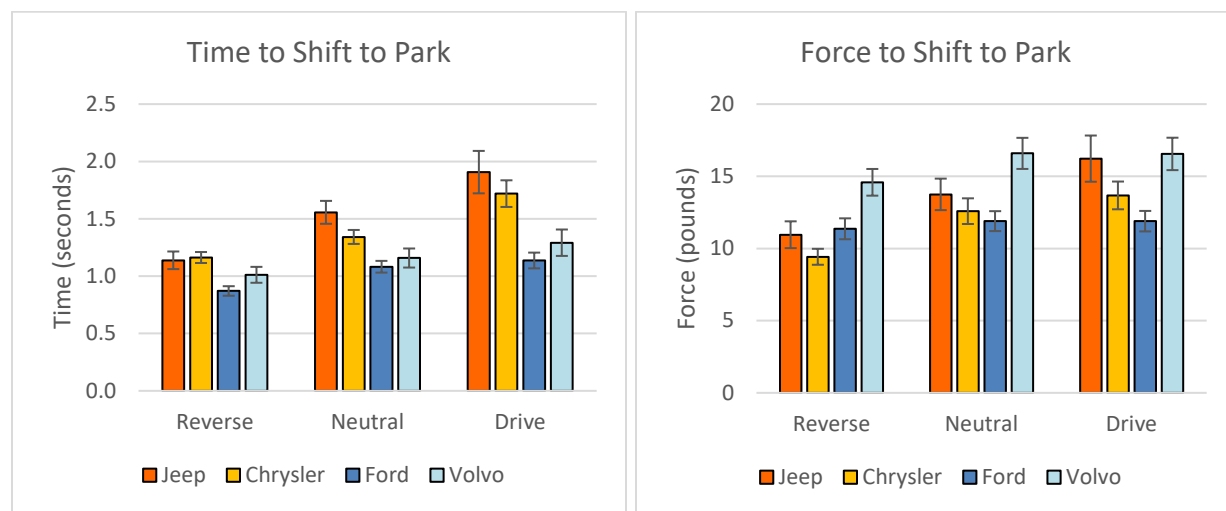
*Time to shift.* We analyzed shifts from the Static Shifting Tasks to determine the average time elapsed across each shift in each vehicle. To calculate the time elapsed for each instructed shift, we analyzed displacement and gear data to determine the time at which each participant began an instructed shift as well as the time at which the shift was completed. Start and end times for each

instructed shift were identified as to be inclusive of any other shifting movement between the start of the shift attempt and the end, when the participant reached the intended gear. Thus, our time metric accounted for any time spent in gears other than the starting and ending points. We calculated the time to shift for each of the instructed shifts for each participant and each vehicle. In the BMW, the displacement changes minimally when shifting into Park due to the push button configuration, and thus we excluded those shifts from our analysis.

We compared time to shift into Park from each of the other three gears (Drive, Neutral, and Reverse) across all vehicles excluding the BMWs. An analysis of variance showed that there was a significant effect of shift ( $F(2, 273) = 25.12, p < .001$ ) and of vehicle ( $F(3, 273) = 18.74, p < .001$ ) (**Figure 14**, left).

*Force to shift.* We analyzed the average maximum force exerted across each shift in each vehicle during the Static Shifting Tasks. To perform this analysis, we determined the maximum force as recorded by the force sensor during the time elapsed for each instructed shift. For each instructed shift, we used the start and end times already determined in our time to shift calculation. For the BMW, we did not include transitions into Park in our force to shift calculation, due to the push button configuration.

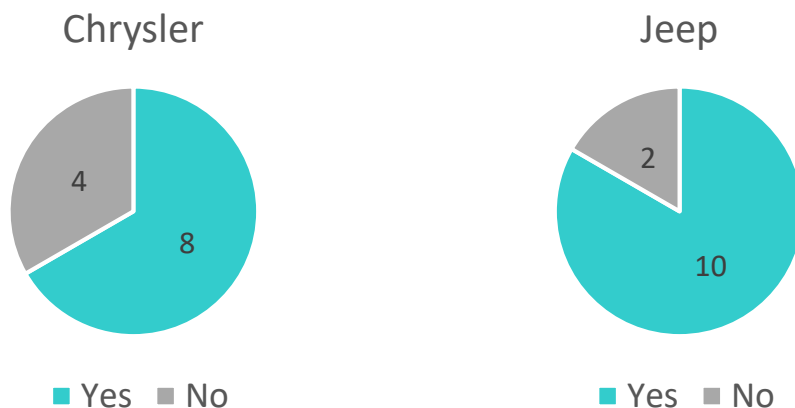
We examined the amount of force used when shifting into Park from each of the other three gears (Drive, Neutral, and Reverse) across all vehicles, excluding the BMW. An analysis of variance showed that there was a significant effect of shift ( $F(2, 273) = 9.87, p < .001$ ) and of vehicle ( $F(3, 273) = 11.93, p < .001$ ) (**Figure 14**, right).



**Figure 14. Time and force to shift into Park.** Average time (left) and force (right) to shift to Park from Reverse, Neutral, and Drive for different vehicles.

*Survey.* All participants completed the post-drive survey and confirmed the vehicles they regularly drove, and frequency at which they drove them. The 24 participants who drove the class vehicles (2013 Chrysler 300 and 2015 Jeep Grand Cherokee) were asked additional questions specifically related to the recall and disclosure. Of the 12 participants who drove the Jeep, four were aware of a recall on their vehicle. Of those four participants, three had the remedy applied to their vehicles, and one chose to not have it applied to his vehicle. Of the 12 participants who drove the Chrysler, six were aware of a recall on their vehicle. Of those six participants, five had the remedy applied to their vehicles, and one chose to not have it applied to his vehicle.

When asked if they still would have purchased or leased their vehicles if given the S27 disclosure language at the time of purchase, ten of the 12 Jeep drivers answered “yes” and eight of the 12 Chrysler drivers answered “yes” (**Figure 15**).



**Figure 15. Survey results.** Results from the survey question given to participants who drove the Chrysler and the Jeep, who were asked whether they would still have purchased or leased their vehicles had they been provided language about the gearshift from the S27 disclosure.

Rates of corrected mis-shifts in the Chrysler and Jeep were among the lowest compared to the other vehicles. These were most common in the BMW, and were significantly lower in the other four vehicles. Across all vehicles, two-thirds of the corrected mis-shifts occurred during shifts to Neutral, and lower rates when shifting to Drive, Reverse, and Park. These results reveal both that corrected mis-shift rates are low in class vehicles and that they tend to occur during shifts that are made less frequently in everyday driving.

Rates of forgetting to shift into Park were lowest in the Jeep and Chrysler vehicles as compared to the other vehicles. Taken together, these results indicate that drivers of the class vehicles are not more likely than other drivers to accidentally leave their vehicle in gear instead of shifting into Park. Rates of forgetting to shift into Park or being late to shift into Park varied greatly based upon the task being completed, and were most common during the Mailbox Task, designed to be among



the most ecologically valid of our tasks. Furthermore, this task had an element of “hurriedness,” which may have contributed to increased error rates due to added stress imposed on the driver.<sup>385</sup>

When instructed to shift into Park, drivers across all vehicles show variability in where they look, supporting the notion that this behavior differs across operator, task, and vehicle.<sup>386</sup> Drivers of the FCA vehicles tended to look at the dashboard more than the gearshift while shifting, which may be consistent with previous studies that found that drivers glance more often at the dashboard during parking-related tasks.<sup>387</sup> Of note, drivers of the FCA vehicles spent the most time looking at both the gearshift and the dashboard during shifts to Park, as compared to drivers of all other vehicles.

We found an overall difference in the amount of time to shift into Park across vehicle types, seemingly driven by the class vehicles taking more time than the other vehicles. It should be noted however, that the magnitude of this difference (approximately half a second) is minimal and is driven in part by including the time it takes for the monostable gearshift to return to center. We measured the time to shift by using displacement data, which provides information about where the gearshift is in space at each point in time, and the end of the shift was marked when the gearshift stabilizes and ceases movement. As compared to the conventional mechanical gearshifts, the monostable gearshift, due to the additional movement back to center, includes additional time that is unrelated to the successful shift. The result is that the magnitude of the difference reported in our results is necessarily a conservative overestimation of the actual difference between the gearshifts. Importantly, the slight amount of additional time measured to shift into Park with the monostable gearshifts does not affect participants’ ability to achieve the Park position and secure the vehicle as indicated by no increase in error rates in the monostable equipped vehicles.

The amount of force required to shift into Park differed across vehicles and across shifts, but not in a consistent manner. As a whole, the amount of force to achieve Park varied across vehicles and shifts, suggesting that there is no specific pattern of or difference in the force required into Park in class vehicles versus other vehicles.

### Conclusion

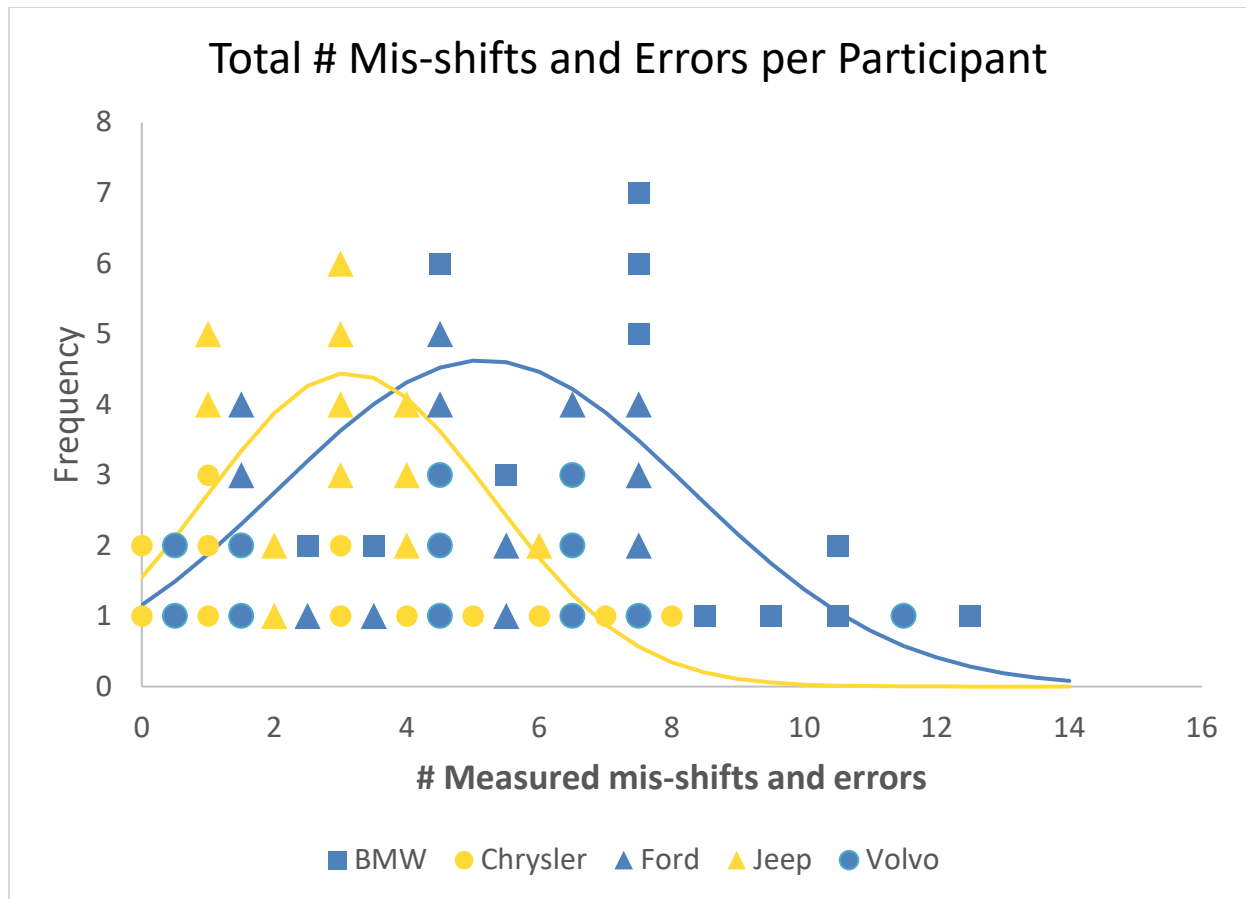
The results of our study illustrate the complexity and nuance in gearshifting behavior, while also demonstrating the low frequency of uncorrected shifting errors (i.e., those necessary for a rollaway event). We observed variability in gearshift behavior across the vehicles we tested and provide evidence that gearshift errors are not more common in class vehicles when compared to the other vehicles we tested. In fact, we observed *lower* rates of certain types of gearshift behaviors and errors in the class vehicles as compared to the other vehicles (**Figure 16**).

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<sup>385</sup> Fitts, 1966

<sup>386</sup> Huey et al., 1995

<sup>387</sup> Kidd et al., 2017



**Figure 16. Total mis-shifts and errors per participant.** Total number of measured corrected mis-shifts, “forget to shift” and “late to shift” errors for each participant.

#### Comparison to Lextant clinics and Dr. Rosenberg’s testing.

All of our study participants were experienced drivers who drove their assigned vehicle at least once per week and were thus familiar with the gearshift. Given their experience, our participants were more similar to the class members than those participants in the aforementioned studies which included drivers naïve to the gearshift. Unlike [REDACTED] in Dr. Rosenberg’s testing, our use of experienced participants controls for any novelty effects – it is not uncommon for people to need time to learn a new technology.<sup>388</sup> As described above, Dr. Rosenberg claims to have had experienced drivers in his study, but only four of his participants reported to have owned a vehicle with a monostable gearshift, and even those four did not verify that their monostable gearshift was the same as the gearshift in the class vehicles.<sup>389</sup>

In contrast [REDACTED] Dr. Rosenberg’s testing, we evaluated various gearshift behaviors using precise objective techniques by way of our instrumentation that enabled

<sup>388</sup> Shinar et al., 1998

<sup>389</sup> Rosenberg Report, p. 33

us to detect the gear selected, force used, and displacement, at the resolution of one millisecond. These techniques necessarily are not subjective or open to interpretation. We used this information along with our Go Pro footage to fully characterize and define each shift that we evaluated. This precision is unmatched in both the clinics and in Dr. Rosenberg's work, and removes the element of subjectivity when characterizing gearshift behavior by way of solely relying on visual observations of the experimenter and subsequent review of videos of participant performance.<sup>390</sup> Furthermore, we explicitly defined each shifting behavior so as to be mutually exclusive of one another; we did not ever categorize one participant's single maneuver into two separate gearshift behaviors or errors and were thus careful to not over- or under-include shifting metrics. This is in direct contrast to Dr. Rosenberg's technique, in which a single task can be subjectively judged as having multiple co-occurring errors.<sup>391</sup>

Furthermore, we chose to measure errors that could be objectively determined. [REDACTED] Dr. Rosenberg's study chose to measure "undershoot errors" in which the participant stops at the gear prior to entering the intended gear. However, there is no way to properly distinguish between participants who believed they were in the correct gear and then chose to immediately shift to the next gear, or participants who were merely shifting between gears to arrive at the intended gear.

Our study included appropriately representative experimental control vehicles, picked as likely alternative vehicles that class members may have considered at the time of their purchase or lease of their vehicles or were similar in size, class and type. Dr. Rosenberg chose a 2019 Jeep Cherokee as his control vehicle, which is an entirely different model of vehicle and would not yet have been on the market, or have been a viable alternative, at the time class members would have purchased or leased their vehicle.

## **North Carolina State Accident Report Database Analysis**

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In order to evaluate the overall incidence and relative rates of rollaways that occur in the class vehicles, we conducted an analysis of rollaway-related accident reports involving the 2012-2014 Chrysler 300, 2012-2014 Dodge Charger, and 2014-2015 Jeep Grand Cherokee ("class vehicles"<sup>392</sup>), as well as peer vehicles representing a range of manufacturers.

The analysis was based upon reports of accidents documented in the North Carolina Accident Report Database (NCDB). The NCDB is a detailed database maintained by the State of North Carolina Department of Motor Vehicles. The database is used by the Federal Highway Administration (FHWA) in conjunction with its Highway Safety Information System, and its

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<sup>390</sup> Rosenberg Report, pp. 23-24, 28

<sup>391</sup> E.g., Rosenberg Raw Data (EXP\_ROSEN\_000015) Tasks Worksheet, Subject 1 Data

<sup>392</sup> These make and model year combinations represent the "class vehicles" for the purposes of the analyses described in this section; however, we cannot rule out that the dataset includes 2012-2014 Chrysler 300s and Dodge Chargers that were not equipped with the subject monostable shifter.

accuracy is ensured by active compliance with FHWA standards.<sup>393</sup> The NCDB is an effective tool for scientific analyses of vehicular accidents, as it contains detailed vehicle, driver, situational, and environmental information, as well as accident narratives, for police-reported accidents occurring in the state.<sup>394</sup> Accident narratives, which are written by the investigating officer and describe the circumstances of the accident, can be searched for keywords in order to investigate accident patterns for specific vehicle models, driving contexts, and/or driver factors.<sup>395</sup> As evidenced by a body of peer-reviewed scientific research, the NCDB has been used routinely for scientific analyses for decades,<sup>396</sup> including by NHTSA<sup>397</sup> and for the purpose of evaluating vehicle design issues.<sup>398</sup>

The present analysis of accident reports from the NCDB used methods we have previously established and described in several peer-reviewed scientific papers.<sup>399</sup> For the years 2012 through 2016, a keyword search was conducted to identify those accident records whose narratives contained one or more of the following keywords or key phrases: *exit vehicle, exit the vehicle, out of vehicle, rollaway, runaway, unexpected movement, vehicle in gear, vehicle moves, wrong gear, took off, takes off, jump, roll, rolls, rolled, out of park, gear slip, shifted into, rotary, forget, forgot, ran away, not in drive, unintended movement, rocking, rocked back*. The set of records was constrained to include only those accidents for which the year that the accident occurred was after or the same as the vehicle model year. The set of records was further constrained to those accidents involving the class vehicles (2012-2014 Chrysler 300, 2014-2015 Jeep Grand Cherokee, and 2012-2014 Dodge Charger) and a set of peer vehicles with respect to model years and vehicle category as defined by the Insurance Institute for Highway Safety (IIHS).<sup>400</sup> The class vehicles evaluated in the present analysis may have included, but were not limited to, vehicles equipped with a monostable gearshift. The peer vehicles evaluated in the present analysis—which included vehicles from IIHS large/four-door, mid-size SUV, and luxury vehicle classes—likely represented a variety of gearshift designs, including electronic transmission gearshifts and conventional mechanical gearshifts. The narratives within each of these records were then reviewed to identify those accidents in which a driver experienced a runaway or rollaway vehicle. To calculate the risk of rollaway events, the number of accidents was divided by the number of vehicle registration years—defined as registered vehicles in North Carolina for each corresponding model and model year, and obtained from the National Vehicle Population Profile (NVPP).<sup>401</sup> In this section, for brevity, we will refer to numbers of vehicle registration-years as, simply, numbers of vehicles.

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<sup>393</sup> HSIS, 2014

<sup>394</sup> Stutts et al., 2001; NCDOT, 2016

<sup>395</sup> e.g., Stutts et al., 2001; Lococo et al., 2012

<sup>396</sup> e.g., Foss et al., 2011; Kim et al., 2007; Srinivasan et al., 2008; Stutts et al., 2001; Sandt & Zeeger, 2006

<sup>397</sup> e.g., Lococo et al., 2012; Perel, 1976

<sup>398</sup> e.g., Collins et al., 2015; Lococo et al., 2012; Schmidt & Young, 2010; Schmidt et al., 1997; Trachtman et al., 2005; Young et al., 2011; Padmanaban & Fitzgerald, 2013

<sup>399</sup> e.g., Trachtman et al., 2005; Schmidt et al., 1997; Schmidt & Young, 2010; Young et al., 2011

<sup>400</sup> Large/four-door vehicles: 2012-2014 Buick LaCrosse, 2012-2014 Buick Regal, 2012-2014 Toyota Avalon. Midsize SUV vehicles: 2014-2015 Chevrolet Equinox, 2014-2015 Dodge Journey, 2014-2015 Ford Explorer, 2014-2015 Ford Flex, 2014-2015 Jeep Wrangler, 2014-2015 Nissan Pathfinder, 2014-2015 Nissan Murano. Luxury vehicles: 2012-2014 Audi A6, 2014-2015 Audi Q5, 2012-2014 BMW 550, 2012-2014 BMW Z4, 2014-2015 Cadillac SRX, 2014-2015 Infiniti QX60, 2012-2014 Lexus RX350, 2012-2014 Mercedes Benz C250.

<sup>401</sup> IHS Markit, formerly R.L Polk & Company

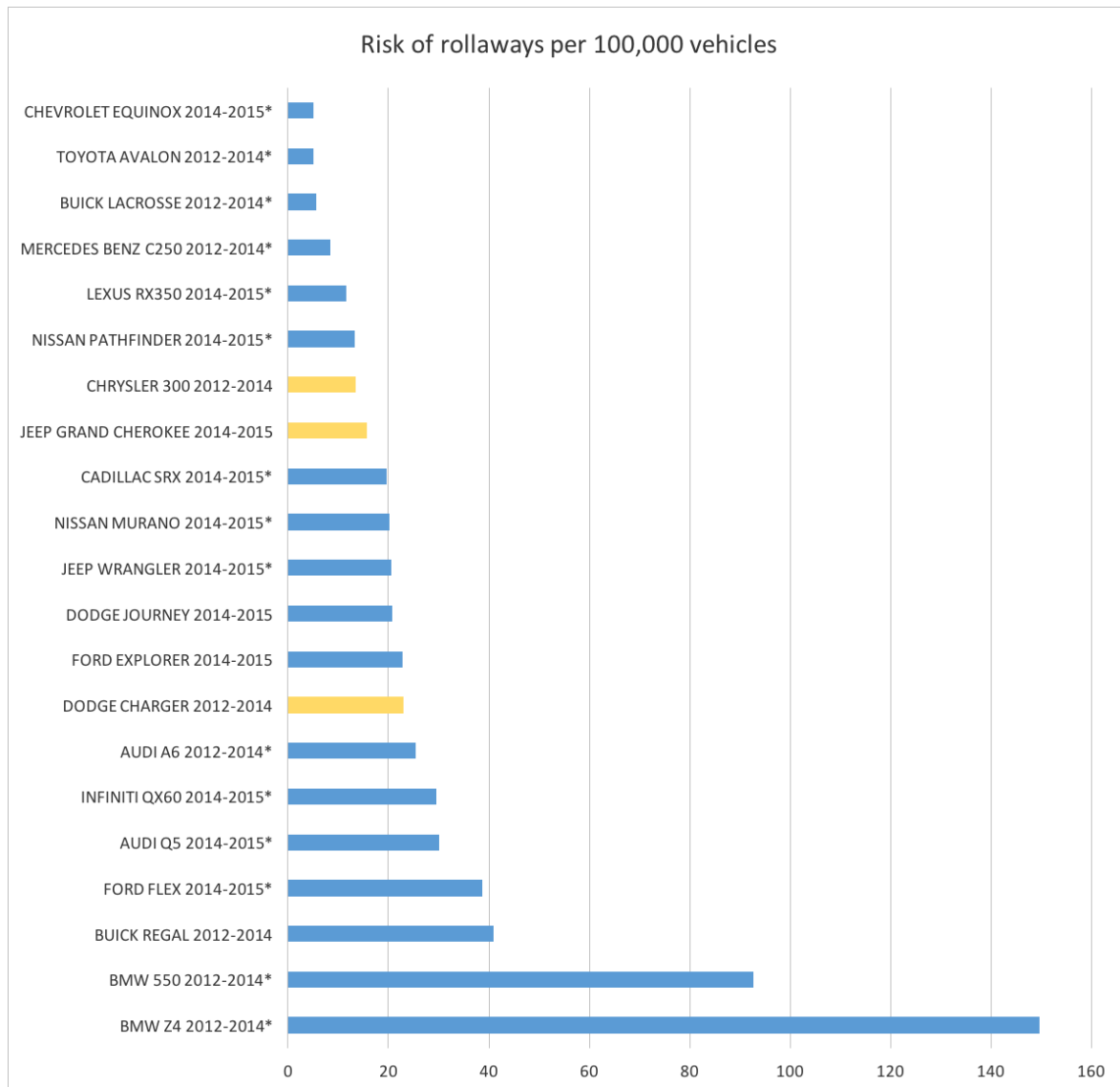
The rollaway accidents described within the resultant dataset included instances in which the driver believed the vehicle to be in Park, when it actually was in another gear, and the vehicle moved; in which the driver left the vehicle in gear, exited the vehicle, and the vehicle moved; and in which the driver exited the vehicle and became injured due to unexpected movement of the vehicle. **Figure 17** shows the risk of rollaway accidents per 100,000 vehicles for the class vehicles (yellow bars) and peer vehicles (blue bars). The rate of rollaway accidents across the overall dataset was generally low, varying from 5.0 rollaway accidents per 100,000 vehicles in the Chevrolet Equinox to 149.7 in the BMW Z4. The rate of rollaway accidents in each class vehicle was also very low (less than 24 accidents per 100,000 vehicles), but varied across the three class vehicles: 13.4, 23.1, and 15.8 accidents per 100,000 vehicles in the 300, Charger, and Grand Cherokee, respectively.

As is evident in **Figure 17**, the rollaway risk for each of the class vehicles fell within the distribution of its respective peers, as well as the overall dataset. That is, there were large/four-door and luxury cars with both lower and higher risk than the 2012-2014 300, large/four-door and luxury cars with both lower and higher risk than the 2012-2014 Charger, and midsize and luxury SUVs with both lower and higher risk than the 2014-2015 Grand Cherokee. Further, the risk values for the three FCA vehicles examined were closer to the median or center of the distribution and not outliers. In other words, none of the three class vehicles was associated with a risk of rollaways that was at the high or low end of the overall distribution across the dataset. As such, the present analysis indicates that neither of the three class vehicles is associated with a risk of rollaways that is atypical, unique, or an outlier with respect to the population of vehicle peers. Rather, the risk of rollaways in each of the three class vehicles is representative of the population of similar vehicles, equipped with a variety of gearshift designs, that were on the road at that time. As such, the findings of the present analysis do not support an alleged defect in the class vehicles' gearshifts that causes increased, over-representative, or unusually frequent rollaway incidents, or driver errors leading to rollaway incidents.

Furthermore, with respect to the Grand Cherokee, the low risk of rollaways, falling within the center of the distribution of risk among similar vehicles, does not comport with the rate alleged by the named plaintiffs in the present action—i.e., nine rollaways leading to injury or property damage in the Grand Cherokee.<sup>402</sup> This disparity between named plaintiffs' rate and the overall risk of Grand Cherokees on the road, generally, calls into question the similarity between the named Grand Cherokee plaintiffs and the overall class of Grand Cherokee drivers.

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<sup>402</sup>See Appendix C.



**Figure 17.** Risk of rollaway accidents per 100,000 vehicles, for police-reported accidents in North Carolina occurring during the years 2012 through 2016, for class (yellow bars) and peer (blue bars) vehicles. Asterisks denote that a single rollaway event was identified from the database.

## **Analysis of NHTSA’s Office of Defects Investigation’s (ODI) Resume**

As mentioned above, and detailed in the closing ODI Resume for investigation EA 16-002, on April 22, 2016, FCA issued NHTSA Recall 16V-240 (FCA Recall S27).<sup>403</sup> The authors of this closing ODI Resume state that “although the Monostable gearshift has the familiar appearance of a conventional console mechanical gearshift assembly, it has an unfamiliar movement that does not provide the tactile or visual feedback that drivers are accustomed to receiving from conventional mechanical gearshifts. Consequently, the driver must take additional time to verify that the desired gear position was achieved...”

The authors of the ODI Resume continue on to state:

*“Field data indicate that the design resulted in higher error rates during attempted shifts to Park and higher rates of powered rollaway incidents. The Monostable design appears to violate several basic design guidelines for vehicle controls, such as: 1) be consistent; 2) controls and displays should function the way people expect them to function; 3) minimize what the user has to remember; and 4) operations that occur most often or have the greatest impact on driving safety should be the easiest to perform.”*

In support of these claims, the authors of the ODI Resume cite to preliminary human factors design guidelines for driver information systems.<sup>404</sup> This NHTSA report focuses on the theoretical ideas that are related to information systems using auditory and visual displays (e.g., navigation systems) and does not consider (i.e., is not intended for) conventional in-vehicle controls, including shift levers.<sup>405</sup> Nonetheless, we address each claim in the context of the Green et al. (1995) paper, as well as in the context of the Monostable designs present in the class vehicles mentioned in the ODI Resume. It should be noted that the ODI Resume does not specify how the monostable design violates each design guideline described in Green et al. (1995).

### **1. “Be consistent”**

#### **Green et al. (1995)**

According to Green et al. (1995), consistency refers to “consistency of input, consistency of output, and compatibility of input and output with one another.” With regards to consistency of input, they state that common functions should always be located in the same place so people do not have to search for them, and that controls and switches with similar responses should have similar actuation motion. By providing such consistency, it reduces the potential for human error.

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<sup>403</sup> EA 16-002 Closing Resume, MCPS011946

<sup>404</sup> Green et al., 1995

<sup>405</sup> Green et al., 1995



Response

There is no evidence to suggest that monostable designs violate such design guidelines. To the contrary, the design of monostable gearshifts in the purported class vehicles are consistent with other shift lever control actions, visual displays, and warning signals. For example, the input-output relationship is consistent with driver expectation and common conventional mechanical gear shift selectors available to the general motoring public. Specifically, (a) a short forward movement of the lever always advances the transmission a single gear in the direction of P on the PRND, (b) a short rearward movement of the lever always advances the transmission a single gear in the direction of the D, (c) a longer translation forward always results in P, and (d) a longer translation rearward always results in D. Additionally, the movement requirement of shifting to P—which arguably is the operation with the most consequence in egress-related accidents—is the same in both designs (i.e., pushing the shifter forward until it reaches the end of the console). As such, the same basic movements and structural framework for the driver’s interaction with the controls is used in both the monostable and conventional mechanical gear-shift selection systems, which Green et al. (1995) defined as an important element for consistency.

Similarly, the visual displays in the monostable design are intuitive and consistent with information displays in conventional mechanical systems. Specific gear information is available at the point of contact, (i.e., on the gear shift selector itself) and in the IP on the dashboard.

## **2. “Controls and displays should function the way people expect them to function”**

Green et al. (1995)

According to Green et al. (1995), this refers to consistency between a driver’s understanding of how something functions versus how something actually functions. Put another way, an agreement between a driver’s actions and the methods of operation corresponds with expectancy.

Response

Although the term “expectancy” is somewhat relative, as a long-time user of the monostable gearshift may come to expect very different things than a user who exclusively drives a manual-transmission gearshift, a user’s expectation is heavily dependent on his/her previous experiences. Because of this, the monostable gearshift’s similarity to conventional mechanical gearshifts (as noted above) creates a condition in which a driver’s expectancies are not violated. First, the label of each gear (PRND) is the same between the monostable and conventional mechanical gearshifts. Users of conventional mechanical gearshifts who shift to the gear position labeled “D” will not see a different result from users of monostable gearshifts who shift to the gear position also labeled “D.” This applies to the other labels as well, and as a whole this argues against NHTSA’s suggestion that the displays on the monostable gearshifts and the dashboard do not function the way people would expect them to. Second, both types of gearshifts utilize the same general movement for putting a car from stationary to non-stationary (i.e., moving the gearshift aft or rearward) and for putting a car from non-stationary to stationary (i.e., moving the gearshift forward). Thus, when evaluating people’s expectations of the monostable gearshift with regards to both control and design, it would appear as though it would not be substantially different than people’s expectations of conventional mechanical gearshifts. Third, the tactile feedback and

movement patterns used to operate the gearshifts are similar. Finally, it should be noted that a novel variation of an in-vehicle control does not necessarily change the functional expectancy for drivers. Specifically, the monostable design variations do not alter the way in which the gearshift functions. As a consequence, the driver's expectancy for functional operation is not violated.

### **3. "Minimize what the user has to remember"**

Green et al. (1995)

In an example provided by Green et al. (1995): *"suppose a vehicle information system provided a yellow pages business listing function. Forcing the driver to memorize the phone number, step through the interface to the destination entry function, and then key in the phone number of the destination from memory would violate this principle. Short-term and long-term memory loads are quantifiable using human performance models and cognitive complexity theory."*

#### Response

While it is certainly true that larger memory loads can have detrimental effects on performance, the amount of information that monostable design users must remember is essentially equivalent to that needed to operate conventional mechanical gearshifts. Information about the status of the transmission is always available to drivers via the gearshift display and the IP. As a result, there is no requirement or necessity to utilize short- or long-term memory. Further, the order of the letters on the gearshift does not differ between monostable and conventional mechanical gearshifts. Moreover, in most cases, users are moving the gearshift into the P or D positions with the same general motions across both types of gearshifts. Finally, the amount of information that a new user of a monostable gearshift would potentially have to remember is not substantially more compared to learning how to operate other in-vehicle controls (e.g., new locations and control movements for mirror and seat adjustments). Taken together, NHTSA's decision to seemingly single out monostable gearshifts as a violation of this particular guideline is unfounded and ignores the fact that any criticisms of monostable designs in this regard would also apply to virtually every passenger vehicle on the road.

### **4. "Operations that occur most often or have the greatest impact on driving safety should be the easiest to perform"**

Green et al. (1995)

In an example provided by Green et al. (1995), "drivers will set the destination each time they use the route guidance system but should rarely need to recalibrate the system. Hence, it is more important that the more frequent destination setting task be easier to do than the recalibration task."

#### Response

With regards to shifting gears, two of the most frequent tasks performed by drivers are to shift to P and D. Not coincidentally, these two tasks also have the greatest impact on driving safety, since drivers are likely intending to put the vehicle from a non-stationary position to a stationary position (i.e., when shifting to P), or vice versa (i.e., when shifting to D).

For the gearshifts in the purported class vehicles, these two operations are the easiest to perform, as P and D positions are located at each end of the gearshift. As a result, the force input required to move the gearshift into Park or Drive does not have to be precise relative to shifting to other gears, as users can simply move the gearshift in a given direction until it reaches the end of the shift-travel. In other words, pushing the gearshift forward “hard” compared to “very hard” will both unambiguously result in the vehicle being set to a P position. This pattern of behavior is supported by the results of our study – for shifts to P or D, participants used ballistic movements using forces in excess of what was necessary to shift when using both the monostable as well as conventional mechanical gearshifts (e.g., **Figure 14**).

In this way, an operator with or without any experience with a monostable gearshift can simply push the gear selector uni-directionally with various force inputs to achieve the P position both easily and safely and is provided with tactile (and visual) feedback afforded by the design, which indicates the selector has reached the end of the travel and the selector is in the P position.

## Summary of Analyses

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The plaintiffs named in this matter allege that their vehicles are equipped with a defective gearshift, and that the gearshift is dangerous and can lead to rollaways. In order to examine these claims from a human factors perspective we:

- Evaluated the design history and implementation of the incident monostable gearshift, including reviewing and assessing usability clinics
- Reviewed material available to owners/drivers that provide instructions on how to use the gearshift
- Reviewed plaintiffs’ testimony regarding rollaway incidents, personal history, and purchase/lease considerations
- Described the process by which humans engage in purchasing products
- Evaluated relevant human factors literature regarding the processes by which humans engage in purchasing/leasing decision-making
- Evaluated relevant human performance literature on driver behavior and warnings compliance
- Assessed the study performed by Plaintiffs’ expert Rosenberg
- Conducted our own closed course study on driver gearshift behavior comparing the monostable gearshift to typical mechanical gearshifts
- Analyzed available records related to rollaways and gearshift errors in the NCDB
- And assessed the analysis from NHTSAs ODI
- Analyzed the design of the subject monostable gearshift from a human factors and human performance perspective
- Analyzed the specific incidents of rollaway and purchase/lease considerations described by the plaintiffs

Research indicates that the purchase decision process is highly variable across individuals, likely due to the variety of potential factors that may influence purchase decisions, as well as variability

among individuals with regard to their own personal and situational characteristics—resulting in variability in the resultant weight or consideration given to each factor. Based upon scientific findings, as well as the testimony of deposed plaintiffs’, sources of variability that likely existed with regard to the purchase/lease of the class vehicles include: differences in judgments of the relative importance of various features, the perceived value and valence attached to certain features, the number and nature of information sources sought and considered beforehand, the type of decision being made, price willing to pay, activities and experiences at the point of purchase/lease. Taken together with the demonstrated variability among deposed plaintiffs with regard to their knowledge, educational and employment backgrounds, and experience with the class and/or other vehicles, it is highly unlikely that they, or the overall putative class they claim to represent, engaged in purchase-/lease-related decision-making that can be characterized as a singular process leading to a uniform outcome.

Scientific research has also established that behavioral responses to the receipt of safety or risk-related information are, similarly, highly dependent upon a variety of personal and situational factors. According to testimony, the deposed plaintiffs vary considerably with regard to such factors as their prior experience with the monostable gearshift, their goals or objectives in seeking information about it and other aspects of the vehicle (e.g., via test drives, queries, and owner’s manual review), the level of dissatisfaction—if any—experienced with regard to the gearshift, their reasons for disregarding such dissatisfaction, as well as the alternative vehicles being considered. Further variability can be expected to be introduced through such factors as variability in the availability and efficacy of channels for disseminating candidate disclosures, as well as receipt and consideration of media coverage regarding perceived related events. The presence of these, and other, sources of variability among the deposed plaintiffs casts doubt upon the notion that they, much less the overall putative class, would have been uniformly exposed to, or produced uniform behaviors in response to, new or different disclosures regarding the operation of the monostable gearshift, the alleged defect, and uncertainty about product performance.

With respect to the allegations of the plaintiffs’ regarding the design of the monostable gearshifts, we found that gearshift errors that lead to rollaways are rare events that occur across different makes and models of vehicles. Our NCDB analysis revealed that these rollaway events are not overrepresented in the class vehicles, and were similar to those in peer vehicles. Further, the data from our driving study, which were collected from individuals who were experienced with the gearshifts, indicated that the gearshift behavior in the class vehicles with monostable gearshifts did not differ from vehicles with mechanical gearshifts. Further, the findings indicate that the monostable gearshift does not induce drivers to produce atypical or an overabundance of errors; in fact, drivers who operated the FCA class vehicles made fewer shifting errors than those in other monostable and mechanical gearshifts. As such, we find that, contrary to Dr. Rosenberg’s conclusions, the FCA class monostable gearshifts elicit similar, if not more accurate, behaviors relative to comparable gearshifts, and the experiences described by the named plaintiffs are not typical of what would be expected of other owners of these vehicles.

## Conclusions

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Based upon our understanding of the facts, our evaluation of the relevant human factors and human performance issues, the inspections and testing we have conducted, and our education, knowledge, and experience in the areas of human factors and human performance, we have reached the following opinions and hold each to a reasonable degree of scientific certainty:

1. An individual's decision to purchase or lease a vehicle depends on a variety of factors, is highly variable across people, and are dissimilar across vehicles.
2. Had additional information been provided to plaintiffs prior to their purchase or lease of the subject vehicle, it is unlikely to have been noticed or read by every plaintiff. Furthermore, for those individuals who would notice and read this information, their responses would vary.
3. The plaintiffs' incidents and complaints are heterogeneous and consistent with driver error.
4. The number of incidents described by the named plaintiffs is not consistent with the rates of incidents in the putative class.
5. The monostable gearshift design is consistent with human factors design recommendations and guidelines and is not causally related to rollaway incidents or driver errors.
6. Rollaway events are relatively rare, and the risk of an accident or injury resulting from a rollaway event in the class vehicles is not different from that of other vehicles.
7. Gearshifting behavior in the monostable gearshift is similar to gearshifting behavior in comparable monostable and mechanical gearshifts.
8. The monostable gearshift design does not induce drivers to produce atypical or an overabundance of errors.
9. Methodological flaws in Dr. Rosenberg's study render the results untenable and do not suggest any increased risk of error in the class vehicles.

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## **Appendix A**

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### **Curriculum Vitae of Douglas Young, Ph.D.**



**Exponent<sup>®</sup>**  
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## Douglas E. Young, Ph.D.

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### Professional Profile

Dr. Young has over 25 years of experience examining issues related to human performance, human factors, biomechanics, and ergonomics in accidents, injuries, and safety. He has evaluated the human behavior and safety of operation for products manufactured in the automotive and other consumer-product industries, and has studied factors that cause human error and accidents. His scientific expertise includes the analysis of human movement control, coordination, gait, loss of balance, injury assessment, performance in sports and recreational activities, and analysis of accident patterns, as well as reaction time, vision, and the operation of vehicles and machinery.

His research examines effectiveness of warnings, safety information, operation of controls, biomechanics, and accident and injury analyses, as well as human error and its determinants, including movement control, information processing, perception, memory, attention, stress, aging, and training.

Dr. Young also holds the position of Professor in Kinesiology at the California State University in Long Beach (CSULB), is the Director of the Motor Behavior Laboratory, and is a member of the Institutional Review Board for the protection of human subjects at CSULB. He was a co-investigator on a multi-year research grant sponsored by the National Institute of Health and has received numerous awards for his scientific research. He is an active member of the Human Factors and Ergonomics Society and the Society of Automotive Engineers. Dr. Young has served as a research consultant with the Veterans Affairs Medical Center in Long Beach, California, as a consultant with governmental emergency service agencies, including the Los Angeles Sheriff's Department and Long Beach Fire Department, and as an expert with the Association of Scientific Advisors, Inc.

### Academic Credentials & Professional Honors

Ph.D., Kinesiology, University of California, Los Angeles (UCLA), 1988

M.S., Kinesiology, University of California, Los Angeles (UCLA), 1987

B.S., Kinesiology, University of California, Los Angeles (UCLA), 1983

Award for Scholarly and Creative Research, California State University

Young Scholar Award, Western College Physical Education Society

Meritorious Performance and Professional Promise Award, California State University

## Academic Appointments

Professor, Department of Kinesiology, California State University, Long Beach

Director of Research Integrity and Compliance, California State University, Long Beach, 2016

## Professional Affiliations

Human Factors and Ergonomics Society (member)

North American Society for the Psychology of Sport and Physical Activity (member)

Society of Automotive Engineers (member)

## Publications

Hoyos C, Lester BD, Crump C, Cades DM, Young D. 2018. Consumer perceptions, understanding, and expectations of Advanced Driver Assistance Systems (ADAS) and vehicle automation. In Proceedings of the Human Factors and Ergonomics Society Annual Meeting 2018 Sept; 62(1):1888-1892, Sage CA: Los Angeles, CA: SAGE Publications.

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### **Book Chapters**

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Young D, Schmidt R. In-vehicle technology: Safety, automation, and driver behavior. Society of Automotive Engineers In-Car Electronics and Telematics TOPTEC, Long Beach, CA, 2000.

Dzikowski S, Lacourse M, Young D. Perceptual and reproduction scaling of peak movement velocities presented on videotape at different playback speeds. Proceedings, North American Society for the Psychology of Sport and Physical Activity, Monterey, CA, 1995.

McClelland J, Lacourse M, Young D. Perception and modeling in motor behavior. Proceedings, Long Beach Research Symposium, Long Beach, CA, 1994.

Serr R, Lavay B, Young D, Greene G. Work productivity in adults with mild retardation. Proceedings, American Alliance for Health, Physical Education, Recreation, and Dance, San Diego, CA, 1994.

Zafiroglu N, Young D, Lacourse M. The control of the force-time impulse and variability in sequential limb movements. College of Health and Human Services Research Poster Communications Session, Long Beach, CA, 1994.

Serr R, Lavay B, Young D, Greene G. Dexterity and beach assembly work productivity in adults with mental retardation. College of Health and Human Services Research Poster Communications Session, Long Beach, CA, 1994.

Dzikowski S, Lacourse M, Young D. Perceived velocity of golf swings demonstrated in slow motion and fast forward on videotape. College of Health and Human Services Research Poster Communications Session, Long Beach, CA, 1994.

McClelland J, Lacourse M, Young D. Perception of velocity in videotapes demonstrations. College of Health and Human Services Research Poster Communications Session, Long Beach, CA, 1994.

McClelland J, Lacourse M, Young D. Optimizing the display features of videotaped demonstrations. Proceedings, North American Society for the Psychology of Sport and Physical Activity, Minneapolis, MN, 1993.

Saw L, Lacourse M, Young D. Neuromotor control strategies for complex limb movements. Proceedings, Long Beach Research Symposium, Long Beach, CA, 1992.

Sinclair W, Young D. On the management of academic programs. Presentation at the Annual Western College Physical Education Society Meeting, Reno, NV, 1992.

Young D. Motor learning research for physical education. Paper presented at the Annual Western College Physical Education Society Meeting, Reno, NV, 1991.

Young D, Cohen M, Husak W. Degraded acquisition conditions that enhance skill learning. Paper presented at the annual Long Beach Research Symposium, Long Beach, CA, 1991.

Young D, Husak W, Cohen M. Schedules of contextual interference and augmented feedback for skill acquisition. Paper presented at the Annual North American Society for the Psychology of Sport and Physical Activity Conference, Asilomar, CA, 1991.

Young D, Swinnen S, Beukers M. Temporal constraints and invariant relative time. Paper presented at the Annual North American Society for the Psychology of Sport and Physical Activity Conference, Asilomar, CA, 1991.

Carlson R, Young D. Selective recruiting: Marketing your programs to potential majors and minors. Paper presented at the Annual Western College Physical Education Society Meeting, Reno, NV, 1991.

Anderson D, Young D, Husak W, Cohen M. Post-KR delay activities that degrade skill learning. Paper presented at the Annual American Alliance for Health, Physical Education, Recreation, and Dance Conference, San Francisco, CA, 1991.

Young D. Augmented feedback for motor learning: theoretical and practical applications. Paper presented at the Annual North American Society for the Psychology of Sport and Physical Activity Conference, Houston, TX, 1990.

Young D, Cohen M, Husak W, McAurther D, Anderson D. The contextual interference effect: A test of theoretical notions. Paper presented at the Annual North American Society for the Psychology of Sport and Physical Activity Conference, Houston, TX, 1990.

Lew D, Young D, Husak W. Contextual interference and amounts of practice. Paper presented at the California Alliance for Health, Physical Education, Recreation, and Dance Conference, Long Beach, CA, 1990.

Anderson D, Young D, Cohen J, Husak W, McAurther D, Shandler S. Maximizing learning with contextual interference. Paper presented at the California Alliance for Health, Physical Education, Recreation, and Dance Conference, San Diego, CA, 1990.

Cohen M, Husak W, Young D, McAurther D, Shandler S. Contextual interference: Elaboration or reconstruction. Paper presented at the Annual Western Psychological Association Convention, Los Angeles, CA, 1990.

Young D, Schmidt R. Motor programs as units of movement control. Presentation at the Workshop on Mechanics, Control, and Animation of Articulated Figures, Massachusetts Institute of Technology, 1989.

Young D, Schmidt R. The examination of knowledge of performance for insight into information feedback. Presentation at the Annual North American Society for the Psychology of Sport and Physical Activity Conference, Kent, OH, 1989.

Lange C, Young D, Schmidt R. Differences in movement pattern variables with extended practice. Presentation at the Annual North American Society for the Psychology of Sport and Physical Activity Conference, Kent, OH, 1989.

Swinnen S, Young D, Walter C, Serrin D. The role of interlimb interference in the control of bimanual movements. Presentation at the Annual North American Society for the Psychology of Sport and Physical Activity Conference, Kent, OH, 1989.

Young D, Schmidt R. The provision of information feedback. Paper presented at the California Alliance for Health, Physical Education, Recreation, and Dance Conference, Los Angeles, CA, 1988.

Young D, Magill R, Schmidt R, Shapiro D. Motor programs as control structures for reversal movements:

An examination of rapid movements and unexpected perturbations. Presentation at the Annual North American Society for the Psychology of Sport and Physical Activity Conference, Knoxville, TN, 1988.

### Editorships & Editorial Review Boards

California Alliance for Health, Physical Education, Recreation and Dance Journal/Times (associate editor)

Human Factors, Journal of Motor Behavior, Research Quarterly for Exercise and Sport Sciences, Perceptual and Motor Skills, Psychological Reports (reviewer)

**Douglas E. Young, Ph.D.  
Deposition and Trial List  
(2014-2018)**

Depositions:

1/14	Ramirez v Verizon
5/14	Young v Kim
6/14	Miles v Central Refrigeration
8/14	Fault v U-Haul
9/14	Roush v Ford
10/14	Marin v Ganuelas
11/14	Martin v CAP Industries
12/14	Bartek v Skechers
3/15	White v Ulloa
3/15	Jacobs v Walters Bus Service
3/15	Albarado v Babcock
8/15	Mares v Papich Construction
9/15	Ghavameddini v Amerco
12/15	Hussey v Hyundai
1/16	Campos v Escalante
2/16	Lance v Stander
3/16	Kain v Nicholas Construction
7/16	Mincey v Takata
11/16	Swalley v Plasticolor
11/16	Levine v Martinez
5/17	Bernardino v Nissan
6/17	Lennard v Equity Residential
7/17	Wolf v Daimler
8/17	Summers v U-Haul
9/17	Johnson v Ford
9/17	Martinez v U-Haul
10/17	Levine v Martinez
12/17	Aguirre v Nissan
2/18	Melendreras v McCarthy
2/18	Aguirre v Nissan
4/18	Castillo v MCI
10/18	Pahan v Kia Motors America
11/18	Erazo v City Furniture

Trials (and Arbitrations):

1/14	Daley v Subway (A)
10/14	People v Kenneth Gay
12/14	Marin v Ganuelas
6/15	Jacobs v Walters Bus Service
6/15	Young v Kim
2/16	Hussey v Hyundai
8/16	Ghavameddini v Amerco (A)
3/17	Roush v Ford
7/17	Bernardino v Nissan
11/17	People v Lien To YoungBanh
2/18	Levine v Martinez
3/18	Martinez v U-Haul
6/18	Aguirre v Nissan

## **Appendix B**

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### **Curriculum Vitae of David Cades, Ph.D.**



**Exponent®**  
Engineering & Scientific Consulting

## David M. Cades, Ph.D.

Senior Managing Scientist | Human Factors  
525 W. Monroe St., Suite 1050 | Chicago, IL 60661  
(312) 999-4212 tel | dcades@exponent.com

### Professional Profile

Dr. Cades specializes in human factors investigations of vehicle and aircraft operator behavior, including perception response time, visual perception, nighttime visibility, and distractions and has investigated the effects of advanced driver assistance systems (ADAS) and highly automated vehicles (HAVs) on driver behavior. He also has expertise in the evaluation and development of warnings and instructions for a wide range of consumer and industrial products. He utilizes his background in human factors and usability testing to support his work in these areas. He received his Ph.D. in Human Factors and Applied Cognition from George Mason University in 2011.

At Exponent, Dr. Cades has investigated vehicle operator behavior of automobiles, commercial trucks, bicycles, motorcycles, and aircraft. He has evaluated the adequacy of warnings on products and in their manuals and he has applied his experience to projects involving safety- and health- related user behaviors of industrial equipment, kitchen appliances, video game entertainment systems, consumer electronics, sports and recreation equipment, home theater products, and personal protective equipment.

Dr. Cades has expertise in the testing and analysis of how interruptions and distractions affect performance. He has investigated the negative effects of distractions in environments, including, but not limited to, driving, aviation, healthcare, offices, and classrooms. He has applied this knowledge to see how distractions can cause errors that lead to accidents. With respect to aviation, specifically, he has collected over forty hours of data from airline pilots performing safety critical flight tasks with interruptions and distractions. Dr. Cades has performed on-road evaluation of ADAS including auto-braking, collision mitigation and warning, blind spot indication, and lane departure warning.

Dr. Cades also has expertise in evaluating and designing graphical user interfaces including devices for use in automobiles and aircraft. He has previously been employed in the field of usability and user experience digital product design. He has investigated the effects of manual and voice-activated infotainment devices in automobiles. He also designed a dashboard display to assist drivers in maintaining safe speeds while driving in adverse conditions and explored how aging and glare affect people's driving ability. For commercial aircraft, he has worked with pilots, air traffic controllers, and airline operations in support of FAA's NextGen initiative.

In Dr. Cades's graduate work, he has utilized and presented on various statistical methods and has authored papers on driver behavior with respect to in-vehicle displays and devices, flight deck performance with novel systems and interruptions, the effects of glare on human vision, how attributes of interruptions affect task performance, ways to improve how people handle distractions, interruptions' effects in different environments, and various statistical approaches for predicting and understanding research outcomes.



## Academic Credentials & Professional Honors

Ph.D., Psychology, George Mason University, 2011

M.A., Psychology, George Mason University, 2007

B.S., Human Factors, Tufts University, summa cum laude with high honors, 2003

New Investigator Award from APA Division of Experimental Psychology (Division 3), 2012

NASA Graduate Student Researchers Program grant \$30,000 annual, 2008-2011

North American Finalist for Enhanced Safety of Vehicles automotive design competition, 2009

Recipient of the Deflorez Prize in Human Engineering, 2003

## Licenses and Certifications

Certified English XL Tribometrist (CXLT)

PADI Certified Open Water Scuba Diver

## Prior Experience

User Experience Consultant, User Centric, 2010

Research Assistant, Lighthouse International, 2003-2005

Usability Engineering Intern, American Institutes for Research, 2002-2003

Human Factors Intern, Electronic Ink, 2001

Human Factors Intern, Verizon Laboratories, 2000-2001

## Professional Affiliations

Human Factors and Ergonomics Society 2001-present

- Computational Modeling Technical Group
- Cognitive Engineering Technical Group
- Aerospace Technical Group
- Surface Transportation Technical Group
- Product Design Technical Group

Society of Automotive Engineering 2011-present

- Voting member of Safety and Human Factors Steering Committee 2015-present

George Mason Human Factors and Ergonomics Society Student Chapter 2005-2011

- President 2006-2007

Human Factors and Ergonomics Society Potomac Chapter Fall 2006-2011

American Psychological Association 2006-present

- Division 21 - Applied Experimental and Engineering Psychology

Usability Professionals Association 2006-2011

Association for Psychological Science 2006-2011

Cognitive Science Society 2008-2011

## Publications

Hoyos C, Lester BD, Crump C, Cades DM, Young D. 2018. Consumer perceptions, understanding, and expectations of Advanced Driver Assistance Systems (ADAS) and vehicle automation. In Proceedings of the Human Factors and Ergonomics Society Annual Meeting 2018 Sept; 62(1):1888-1892, Sage CA: Los Angeles, CA: SAGE Publications.

Moorman HG, Niles A, Crump C, Krake A, Lester BD, Milan L, Cloninger C, Cades DM, Young D. Lane-keeping behavior and cognitive load with use of lane departure warning. SAE Technical Paper 2017-01-1407, 2017, doi:10.4271/2017-01-1407.

Crump C, Krake A, Lester BD, Moorman HG, Cades DM, Young D. Driver behavior with passive and active vehicle safety system. Proceedings of the Transportation Review Board 2017 Annual Meeting.

Cades DM, Crump C, Lester BD, Reed S, Barakat B, Milan L, Young D. Differing perceptions of advanced driver assistance systems (ADAS). Proceedings of the Human Factors and Ergonomics Society Annual Meeting 2016 Sept; 58(1):265-269.

Kim R, Lester BD, Schwark J, Cades DM, Hashish R, Moorman H, Young D. Gaze behavior during curb approach: The effect of mobile device use. Proceedings of the Human Factors and Ergonomics Society Annual Meeting 2016 Sept; 60(1):1580-1584.

Cades DM, Crump C, Lester BD, Young D. Driver distraction and advanced vehicle assistive systems (ADAS): Investigating effects on driver behavior. 7th International Conference on Applied Human Factors and Ergonomics (AHFE 2016) and Affiliated Conferences; 4th International Conference on Human Factors in Transportation. 2016.

Foroughi CK, Werner NE, McKendrick R, Cades DM, Boehm-Davis DA. Individual differences in working memory capacity and task resumption following interruptions. Journal of Experimental Psychology: Learning, Memory, and Cognition Advance online publication. <http://dx.doi.org/10.1037/xlm0000251>. 2016, February 15.

Barakat B, Crump C, Cades D, Rauschenberger R, Schwark J, Hildebrand E, Young D. Eye tracking evaluation of driver visual behavior with a forward collision warning and mitigation system. Proceedings, Human Factors and Ergonomics Society Annual Meeting 2015 Sept; 59(1):1321-1325.

Krauss D, Cades D, Dewar R. Driver Distraction. In: Forensic Aspects of Driver Perception and Response. 4th Edition. Krauss D (ed), Tucson, AZ: Lawyers and Judges Publishing Company, Inc., 2015.

Cades D, Kim R, Krauss D. In-vehicle technology and the driver. In: Forensic Aspects of Driver Perception and Response. 4th Edition. Krauss D (ed), Tucson, AZ: Lawyers and Judges Publishing Company, Inc., 2015.

Crump C, Cades D, Rauschenberger R, Hildebrand E, et al. Driver reactions in a vehicle with collision warning and mitigation technology. SAE Technical Paper 2015-01-1411, 2015. doi:10.4271/2015-01-1411.

Werner NE, Cades DM, Boehm-Davis DA. Multitasking and interrupted task performance. In: The Wiley Handbook of Psychology, Technology, and Society. Rosen LD, Cheever NA, Carrier LM (eds), John Wiley & Sons, Ltd, Chichester, UK, March 2015; ch22, 436-452.  
doi:<http://onlinelibrary.wiley.com/doi/10.1002/9781118771952.ch22/summary>

Crump C, Cades D, Rauschenberger R, Hildebrand EA, Young DE. Dynamic on-road method for evaluation of Advanced Driver Assistance System (ADAS). Proceedings, 3rd Annual World Conference of the Society for Industrial and Systems Engineering, pp. 77-81, San Antonio, TX, October 20-22, 2014. ISBN: 97819384960-2-8.

Perlmutter, S, Cades DM, Heller, MF, Giachetti, RS, Sala JB, Arndt, SA. Effects of mobile technology use on walking. Proceedings, 58th Human Factors and Ergonomics Society Annual Meeting, 2014.

Quartuccio, J, Franz S, Gonzalez, C, Kenner, NM, Cades DM, Sala JB, Arndt, SA, McKnight, PE. Seeing is believing: The use of data visualization to identify trends for cycling safety. Proceedings, 58th Human Factors and Ergonomics Society Annual Meeting, 2014.

Khan FS, Krauss DA, Alper SJ, Droll J, Arndt SR, Lakhiani SD, Cades DM. Do people heed warnings at gas stations? Proceedings, 2nd Annual World Conference of the Society for Industrial and Systems Engineering, pp. 114-117, Las Vegas, NV, November 5-7, 2013. ISBN: 97819384960-1-1.

Cades DM, Young D, Glazek, K, Nauhaus, G, Alper S. Motorcoach seat belt use rates in the United States. Proceedings, 2nd Annual World Conference of the Society for Industrial and Systems Engineering, pp. 283-288, ISBN: 97819384960-1-1, Las Vegas, NV, November 5-7, 2013.

Werner NE, Cades DM, Boehm-Davis DA, Chang J, Kahn H, Thi, G. Understanding interruption resiliency: Individual differences in spatial ability and working memory capacity in resumption. Proceedings, Human Factors and Ergonomics Society 55th Annual Meeting, 2011.

Cades DM, Boehm-Davis DA, Trafton JG, Monk CA. Mitigating disruptive effects of interruptions through training: What needs to be practiced? Journal of Experimental Psychology: Applied 2011; 17(2):97-109.

Cades DM, Arndt SR, Kwasniak AM. Driver distraction is more than just taking eyes off the road. Institution of Transportation Engineers Journal 2011; 81(7).

Nelson E, Kidd D, Cades D. Examining patterns of simulator sickness during increased exposure to a motion-based driving simulator over time. Journal of the Washington Academy of Sciences 2010; 96(3):1-14.

Werner NE, Cades DM, Boehm-Davis DA, Peterson MS, Althman SJ, Zhang X. Individual differences in resuming interrupted tasks. Journal of the Washington Academy of Sciences 2010; 96(3):35-49.

Barrow J, Cades D, Kidd D, Nelson E, Roberts D. Managing speed in inclement conditions using an in-vehicle interface. Proceedings, 2nd International Conference on Automotive User Interfaces and Interactive Vehicle Applications, 2010.

Cades DM, Kidd DG, King EB, McKnight PE, Boehm-Davis DA. Factors affecting interrupted task performance: Effects of adaptability, impulsivity, and intelligence. Proceedings, 54th Human Factors and Ergonomics Society Annual Meeting, 2010.

Cades DM, Werner NE, Boehm-Davis DA, Arshad Z. What makes real-world interruptions disruptive?

Evidence from an Office Setting. Proceedings, 54th Human Factors and Ergonomics Society Annual Meeting, 2010.

Werner NE, Cades DM, Boehm-Davis DA, Peterson MS, Alothman SJ, Zhang X. Where was I and what was I doing? Individual differences in resuming after an interruption and implications for real-world distractions. Proceedings, Washington Academy of Sciences 2010 Capital Science Conference, 2010.

Nelson E, Kidd DG, Cades DM. The effect of repeated exposures to simulated driving on ratings of simulator sickness. Proceedings, Washington Academy of Sciences 2010 Capital Science Conference, 2010.

Werner NE, Cades DM, Boehm-Davis DA, Peterson MS. Resuming after an interruption: Exploring the roles of spatial and goal memory. Proceedings, Human Factors and Ergonomics Society 53rd Annual Meeting, San Antonio, TX, October 19-23, 2010.

Barrow JH, Cades DM, Kidd DG, Nelson E, Roberts D. SLIC: Speed limit for inclement conditions. Proceedings, 2009 Eye and the Auto Conference hosted by the Detroit Institute of Ophthalmology, Detroit, MI, 2009. (Note that all authors contributed equally).

Cades DM, Jones SM, Werner NE, Boehm-Davis DA. Knowing when to switch tasks: Effectiveness of internal versus external cues. Journal of the Washington Academy of Sciences 2008; 94(3):93-109.

Kidd DG, Cades DM, Horvath DJ, Jones SM, Pitone MJ, Monk CA. Listen up! Do voice recognition systems help drivers focus on the road? User Experience Magazine: A publication of the Usability Professionals' Association 2008; 7(4):10-12.

Cades DM, Werner NE, Trafton JG, Boehm-Davis DA, Monk CA. Dealing with interruptions can be complex, but does interruption complexity matter: A mental resources approach to quantifying disruptions. Proceedings, Human Factors and Ergonomics Society 52nd Annual Meeting, New York, NY, September 22-26, 2008.

Cades DM, Kidd DG, McKnight PE. Where is the real-world variance? A generalizability theory approach to understanding interruptions in naturalistic environments. Abstract, Proceedings, III European Congress of Methodology, pp. 20-21, Oviedo, Spain, July 8-12, 2008.

Kidd DG, Cades DM, McKnight PE. Generalizability theory in laboratory interruptions research: Estimating variance to improve future research. Proceedings, III European Congress of Methodology, pp. 20, Oviedo, Spain, July 8-12, 2008.

Cades DM, Trafton JG, Boehm-Davis DA, Monk CA. Does the difficulty of an interruption affect our ability to resume? Proceedings, Human Factors and Ergonomics Society 51st Annual Meeting, pp. 234-238, Baltimore, MD, October 1-5, 2007.

Cades DM. Measuring individual differences over and above experimental manipulations. Proceedings, International Society for the Study of Individual Differences 13th Biennial Meeting, Giessen, Germany, July 22-27, 2007.

Cades DM, Trafton JG, Boehm-Davis DA. Mitigating disruptions: Can resuming an interrupted task be trained? Proceedings, Human Factors and Ergonomics Society 50th Annual Meeting, pp. 368-371, San Francisco, CA, October 16-20, 2006.

## **Presentations**

Werner NE, Cades DM, Boehm-Davis DA, Peterson MS, Alothman SJ, Zhang X. Where was I and what was I doing? Individual differences in resuming after an interruption and implications for real-world

distractions. Presented at research symposium at the University of the District of Columbia (UDC), 2010.

McKnight PE, Kidd DG, Cades DM, Kendra MS. Generalizability theory applications in program and policy evaluation: An introduction and application to quasi-experimental and experimental designs. Presented at Evaluation 2009, 23rd Annual Conference of the American Evaluation Association, 2009. (Symposium - all authors presented equally).

Najab J, Cades DM, Kidd DG. A gentle introduction to Bayesian Analysis. Presented at Evaluation 2009, 23rd Annual Conference of the American Evaluation Association, 2009. (Symposium - all authors presented equally).

Barrow JH, Cades DM, Kidd DG, Nelson E, Roberts D. SLIC: Speed limit for inclement conditions. Paper and Poster presented at Enhanced Safety of Vehicles conference, Stuttgart, Germany, 2009. (Note that all authors contributed equally).

Barrow JH, Cades DM, Kidd DG, Nelson E, Roberts D. SLIC: Speed limit for inclement conditions. Paper presented to National Highway Traffic Safety Administration for design competition of Enhanced Safety of Vehicles conference, Fairfax, VA, 2009. (Note that all authors contributed equally).

Cades DM, Boehm-Davis DA, Trafton JG. Interruptions in the office: An observational field study. Poster presented at the 2007 American Psychological Association Division 21, Division 19, and Human Factors and Ergonomics Society Potomac Chapter Annual Symposium on Applied Experimental Research, Fairfax, VA, 2007.

Krall J, Cades DM, McKnight PE. Predicting baseball winners using just noticeable differences. Poster presented at the 2007 annual conference of the Association for Psychological Science, Washington, D. C., 2007.

Higgins KE, White JM, Cades DM, Ciaccio V, Liu L. Effect of age on transient adaptation at low light levels. Poster presented at Optical Society of America Annual Meeting, Tucson, AZ, 2005.

Higgins KE, White JM, Asami R, Liu L, Rosenthal B, Ciaccio V, Cades DM, Gauthier H. Physiology of glare and readaptation (including age differences). Presented at National Highway Traffic Safety Administration Workshop on Headlamp Safety Metrics: Balancing Visibility and Glare, July 2004.

Higgins KE, White JM, Cades D, Ciaccio V, Liu L. Early dark adaptation: Effect of age. Presented at the annual meeting of The Association for Research in Vision and Ophthalmology (ARVO), May 2006.

### **Other Articles**

Cades DM, Skow E, Brinkerhoff RS. Technology advances affecting walking and driving. Common defense: A member publication of Kentucky Defense Counsel, Inc.; Spring/Summer 2017.

Cades DM, Carey MR, Crump C, Cloninger C, Young D. Drivers and driverless vehicle revolution: understanding the changing role of the driver. Westlaw Journal Automotive 36 (24), May 31, 2017.

Cades DM, Crump C, Cloninger C, Young D. Drivers and driverless vehicle revolution: understanding the changing role of the driver. Article at the Defense Research Institute's Product Liability Meeting 2017. Las Vegas, Nevada.

Cades DM, Skow E, Brinkerhoff RS. Understanding the effects of mobile technology on walking and driving. Article in the Michigan Defense Trial Counsel E-Letter; Volume 7, No. 2. 2016.

Cades DM, Brinkerhoff RS, Skow E. Understanding the changing nature of walking and driving. Feature Article in the Iowa Defense Counsel Association Defense Update Summer 2016; Volume XVIII, No. 3.

Cades DM, Arndt, SR, Sala, JB, Krauss, DA. What you need to know about the distracted driver. Feature Article in The Illinois Association of Defense Trial Counsel Quarterly 2013; 23(4).

Khan FS, Cades DM, Krauss, DA. Cyclist and pedestrians vs. cars: Cars win! A human factors perspective. Feature Article in The Illinois Association of Defense Trial Counsel Quarterly 2012; 22(3): 30-33.

Khan FS, Krauss DK, Alper S, Droll JA, Arndt SR, Lakhiani SD, Cades DM. Do people heed warnings at gas stations? In: Newsletter of Michigan Defense Trial Counsel 2012 Spring; 2(4).

Barrow JH, Cades DM, Kidd DG, Nelson E, Roberts D. SLIC: The in-vehicle speed management device. Technical report submitted to judges at National Highway Traffic Safety Administration representing Enhanced Safety of Vehicles design competition. (Note that all authors contributed equally), 2009.

Mintz FE, Smith CF, Cades DM, Fedota J, Henrickson SE. What can I do for you? An evaluation of university and professional organizational roles in the development of student training. Technical report submitted to the executive council of the Human Factors and Ergonomics Society, 2005.

### Peer Reviewer

Reviewer for Journal of Experimental Psychology: Applied, 2010-present

Reviewer for Behavior Research Methods Journal, 2010-present

Reviewer for Human Factors Journal, 2009-present

Reviewer for International Journal of Human Computer Studies, 2008-present



## **List of Depositions and Trial Testimony for David M. Cades, Ph.D., Last Four Years**

### **Depositions**

1. Charlene Henry, v. Northeast Illinois Regional Commuter Railroad Corporation, d/b/a Metra, a corporation, and BNSF Railway Company. September 14<sup>th</sup>, 2018 in the Circuit Court of Cook County, Illinois County Department, Law Division, Case No. 16-L-4505.
2. Sandra Lee Linton, by and through her next friend, Thomas Lawrence Linton, and Thomas Lawrence Linton, individually, v. Coca-Cola Bottling Company United, Inc., et al. July 10, 2018 in the Circuit Court of Jefferson County, Alabama Bessemer Division, Case No. CV 2016-900494.
3. Donald Imber, Jr. v. Admiral-Merchants Motor Freight, Inc., and Robert Dale Croff and Raymond John Croff. May 1, 2018 in the Circuit Court for the County of Jackson, Michigan, Case No. 16-1558-NI.
4. Frank Jennison v. Moran Transportation Corporation, Moran Leasing, Inc., and John Hazen. March 27, 2018 in the Circuit Court of Cook County, Illinois, County Department, Law Division. Case No. 15 L 5990 Consolidated with Case NO. 16 L 95.
5. Marianne Romito v. City of Chicago and Sandra Leverett. January 26, 2018 in the Circuit Court of Cook County, Illinois, County Department, Law Division, Case No. 2013-L-000796.
6. Rhae Bochenek v. Elk Grove Bowl, Inc. December 20, 2017 in the Circuit Court Cook County, Illinois, Municipal Department, Law Division, Case No. 2016-L-004143.
7. William Stefan White v. Transportation Services et al. December 18, 2017 in the United States District Court for the Western District of Kentucky, Civil Action No: 4:16-CV-138-JHM.
8. Charles Tipton; Kelli Johnson and Aaron Johnson; Doreene Christie and James Christie; and Billie Tipton, all individually and on behalf of a Class of persons similarly situated v CSX Transportation, Inc. and Union Tank Car Company. August 8, 2017 in the District Court for the Eastern District of Tennessee Northern Division, Case No 3:15-cv-00311-TAV-CAS.
9. Tarry v. Pitcher and Citizens May 16, 2017 in the Circuit Court for the County of Oakland, State of Michigan, Case No.: 15-150642-NI.



10. Neubauer v. Acuity et al. May 11, 2017 in the Circuit Court for Winnebago County, State of Wisconsin, Case No. 16CV0448; Code: 30101, 30105.
11. Tawanna Hatfield v. Nisource, Inc., Nisource Corporate Services Company, Inc., Columbia Pipeline Group, Inc., Columbia Pipeline Group Services Company, Columbia Gas Transmission, LLC, Chesapeake Appalachia, LLC, Mountaineer Gas Company, and Robin Conger. March 15, 2017 in the Circuit Court of Lincoln County, West Virginia, Civil Action No. 16-C-33.
12. The Estate of Brandon Williams, by the Special Administrator to the Estate, Brandon Williams, Jr., Briana A. Williams, Imarion Williams, Zyere Williams v. Acuity, A Mutual Insurance Company, N&M Transfer Company, Inc., Christopher F. Chaney, Progressive Universal Insurance Company. September 28, 2016 in the Circuit Court of Milwaukee County, State of Wisconsin, Case No., 15-CV-4322.
13. Menard v. Imig et al. June 6, 2016 in the Circuit Court for the County of Macomb, State of Michigan, Case No. 14-3145-NI.
14. Van Dorn v. McNish et al. December 16, 2015 in the District Court of Franklin County, Kansas, Civil Department, Case No. 14CV155 K.S.A. Chapter 60.
15. Sean Boyles v. HNTB Corporation; URS Corporation Southern; The State of Florida Department of Transportation and the City of Orlando Florida, et al. May 5, 2015 in the Circuit Court of the 9<sup>th</sup> Judicial Circuit in and for Orange County, Florida, Case No.: 2011-CA-008268-O.
16. Littlejohn v. Jet Logistics, Inc. February 9, 2015 in the General Court of Justice, Superior Court Division, State of North Carolina, County of Mecklenburg, Case No. 11-CVS-24301.

## **Trials**

1. State of Michigan v. Craig Bryant Haley. November 16, 2018 in the 36<sup>th</sup> District Court, State of Michigan, Case No. 18-045868-01 SM.
2. Rhae Bochenek v. Elk Grove Bowl, Inc. May 23, 2018 in the Circuit Court Cook County, Illinois, Municipal Department, Law Division, Case No. 2016-L-004143.
3. The Estate of Brandon Williams, by the special administrator to the estate, Brandon William, Jr., Briana A. Williams, Imarion Williams, Zyere Williams vs. Acuity, a Mutual Insurance Company, N&M Transfer Co., Inc., Christopher F. Chaney, Progressive Universal Insurance Company, Demetrius L. Crawford. December 13, 2017 in the Circuit Court for Milwaukee County, Wisconsin, Case No. 15-CV-4322.
4. Jimi Carr v. Thorntons, Inc. September 28, 2017 in the Circuit Court for Floyd County, State of Indiana, Case No. 22C011508- CT1058.

## **Arbitrations**

1. Emily Barker v. William Restrepo, individually and d/b/a Restrepo Managing Company and Edith Ruiz. March 20, 2017 in the Circuit Court of Cook County, Illinois County Department – Law Division No. 12 L 010844.
2. Gregory Scott MacLuckie and Patricia MacLuckie v. Steven Douglas Williams. February 17, 2016 in the Circuit Court for the County of Ingham, State of Michigan, Case No. 14-1109-NI.

## **Appendix C**

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### **Plaintiff Incident Details**

Guy v FCA  
Plaintiff Testimony Summary  
Appendix C

Plaintiff	Incident Descriptions						
	Incident Number	Incident Date	Duration of Ownership/Mileage at TOI	Incident Location	Incident Description	Other Occupants in Vehicle	Park Verification Prior to Rollaway
Andollo, Justine	1	December 2015 in afternoon [JA 142, 206]	Couple weeks after leasing vehicle [JA 141]	Driveway at home [JA 141]	<p>Pulled into driveway and was sure car was in park because she put gearshift in park position [JA 141, 142]</p> <p>Opened door to exit vehicle to talk to her daughter who was outside [JA 141-142]</p> <p>Car started to roll backwards in reverse with her half in-half out; left leg was out and right leg was still in car [JA 141-142, 143, 144]</p> <p>Backup camera was on, but she didn't look at shifter lights [JA 144]</p> <p>Quickly put foot on brake, stopped car, and shut door [JA 141-142, 143-144]</p> <p>Car went 4-5 feet [JA 141-142]</p> <p>Didn't check what gear vehicle was in after [JA 144]</p>	Alone [JA 145]	Doesn't remember if she looked at indicator lights in vehicle [JA 142-143, 144]
	2	March [JA 147-148]	--	Driveway at home [JA 148, 150]	<p>Son had to run into house to grab shoes for baseball practice [JA 148, 150]</p> <p>She pulled up in driveway and is 100% sure she put car in Park [JA 148-149, 150, 174, 175-176]</p> <p>Son was sitting in passenger side rear and exited, going behind the car [JA 148-149, 150]</p> <p>Daughter was sitting in driver's side rear and got out next [JA 148-149, 150]</p> <p>She went to open door and had one foot out and car was rolling in reverse [JA 148-149, 150-151, 175]</p> <p>Saw her son in the rearview camera and that car was moving [JA 150-151]</p> <p>Doesn't recall if she looked at indicator light during rolling [JA 151-152]</p> <p>Son screamed and she hit the brake and stopped the car [JA 151, 152]</p> <p>Car went 4 feet [JA 151]</p>	Son, daughter, mom [JA 148-149, 150, 315]	Doesn't remember if she looked at indicator lights in vehicle; rearview camera was not on [JA 150, 174, 175, 176]
	3	June [JA 162, 165-166]	--	Neapolitan Plaza parking lot; totally flat [JA 162, 164]	<p>Pulled into parking space in narrow parking lot and put car in Park [JA 162]</p> <p>Partially exited and car was still moving in reverse [JA 162, 163-164, 207]</p> <p>Her mom grabbed the gear [JA 163]</p> <p>Believes backup camera was on [JA 164]</p> <p>Got back into car and stopped it; believes she touched the gearshift [JA 163, 164]</p> <p>Not sure if she checked the gear [JA 165]</p> <p>Car moved a few feet [JA 164]</p>	Mom [JA 162, 315]	Not sure what she did other than wait for a complete stop [JA 163]
	4	July 2016 in afternoon [JA 167, 171]	--	I-75 northbound [JA 166-167]	<p>Went to set a large water jug in cup holder [JA 166-167]</p> <p>Tapped the gearshifter grip and it knocked it into neutral; doesn't know if it was her hadn't or the jug [JA 166-167, 168, 169]</p> <p>Put it back down to drive, ended up in sport mode, and then back to drive [JA 166-167, 170]</p>	Alone [JA 167]	--
	5	February 2016 or 2017 in the morning [JA 177, 178, 180]	--	Kids' school [JA 177]	<p>Dropping off kids at school [JA 177]</p> <p>Stopped the car and put it into park [JA 177-178, 180]</p> <p>Kid (McKellan) in backseat got out [JA 177-178, 181-182]</p> <p>She started to exit car to help kids get what they needed out of the back and car was rolling forward [JA 177-178, 180, 182, 207]</p> <p>She adjusted the shift lever and stopped the vehicle [JA 178, 182]</p> <p>She believes the indicator light showed it was in drive [JA 182]</p>	Four kids [JA 177-178, 317-318]	Wasn't as confident she achieved park; doesn't know if she looked at indicator lights [JA 180, 181]

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Plaintiff	Incident Number	Vehicle On/Off	Emergency Brake On/Off	Seatbelt On/Off	Warning Chime	Injury/Damage to Vehicle or Property	Pre- or Post-Recall Remedy
Andollo, Justine	1	On [JA 143, 163, 214]	Off [JA 143]	Off [JA 151]	None [JA 142]	None [JA 145]	--
	2	On [JA 150, 163, 214]	--	Off [JA 151]	None [JA 151]	None [JA 153]	--
	3	On [JA 163, 214]	Off [JA 164]	Off [JA 164]	--	Bag scratched side of vehicle [JA 162]	Pre [JA 173]
	4	On [JA 214]	--	--	--	None [JA 173]	Pre [JA 173]
	5	On [JA 181, 214]	Off [JA 181]	Off [JA 179, 180]	--	None [JA 179, 182, 183]	Not sure [JA 179]

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	Incident Number	Incident Date	Duration of Ownership/Mileage at TOI	Incident Location	Incident Description	Other Occupants in Vehicle	Park Verification Prior to Rollaway
	6	Before incident #5 and after incidents #3 and #4 [JA 186-187]	--	End of her street, flat ground [JA 185, 187-188]	Saw 90-year old neighbor in a field and he didn't look stable, so she pulled into the field to help him [JA 185] Made sure car was in park and was certain [JA 185, 188, 190] Opened the door to step out and car started to roll forward "with her" [JA 185, 188, 207] Car didn't move for first few seconds when her foot was off the brake, and then went from park to drive [JA 188-189] Furthest the car ever rolled, maybe 10 feet [JA 185] Stopped it with her foot and put vehicle in park [JA 185, 190] Didn't look at gear when rolling [JA 190]	--	Was certain car was in park; has vague recollection of looking down; when she first exited car and took foot off brake, wasn't moving for the first few seconds [JA 188-189, 190]
	7	Month after recall remedy [JA 191]	--	Stoplight [JA 190-191]	Put her foot on the brake and went to open the door [JA 137, 191] Let her foot off the brake and car rolled forward a foot; it should have thrown her car in park (post-remedy) [JA 137, 184, 191, 193]	Doesn't know [JA 193]	Doesn't think she looked at indicator light [JA 193]
Berken, Corinn	1	June 10, 2016 [CB 189-190]	--	Her driveway (flat and level) [CB 179]	When the incident happened, her son was driving the vehicle. She was not there; she was at work. She did not see the incident. Her son had just come home from somewhere else. He said he absolutely put the vehicle in park before it rolled [CB 179] Her son told her that he pulled into the driveway, and pulled up to the lip of the bottom of the garage. He got out of the vehicle, walked the length of it towards the street, and heard a crash behind him. He stopped and looked, and the vehicle was rolling towards him, so he jumped out of the way. When the vehicle passed the other vehicle that was on the driveway, he jumped in and stopped the vehicle from rolling [CB 180]	--	Her son said he absolutely put the vehicle in park before it rolled [CB 179-180]
Bernal, Eliam <-goes by Marrero Bernal	1	A few months after purchasing the vehicle [EBM 111-112] Did not recall exact date [EBM 110-111]	--	At home on inclined driverway [EBM 114-115]	He pulled exactly to where he parks. While in process of getting out of vehicle, he noticed vehicle roll away, and went back in and realized shifter was in neutral [EBM 110-111] Saw indicator in P, then saw in neutral [112] Did not leave car [EBM 113] Car rolled less than one foot [EBM 115]	None [EMB 115]	He relies on shifter indicator but not dashboard light [EBM 109-110] He is positive he saw "P" on shifter, but did not look at dashboard [EBM 113]
	2	Month or two after first incident [EBM 117] Possibly in 2016 [EBM 126]	--	At home on inclined driverway [EBM 118]	Vehicle rolled away while he was exiting. Acted quickly to activate brake. Minor shoulder bruise from vehicle [EBM 118]	None [EBM 117]	Did not confirm that vehicle was in neutral during rollaway. Assumed in neutral because that's the only way that the car could roll away [EBM 119]
Brooks, Taylor	1	July 11, 2016 [TB 78, 109]	--	Conoco gas station [TB 80] On an incline [TB 81, 105]	Parked his vehicle by a gas pump at a Conoco gas station and was going inside to get something [TB 80, 82, 103] He pulled in, put the car in park, turned it off, and took the keys with him inside [TB 81] After he opened the door to walk back outside, he saw his vehicle roll past the door across the street onto the curb [TB 82] Vehicle hit fencing and wire on a pole [TB 78, 82, 84-85] He followed his vehicle until it stopped [TB 82-82] He got in his vehicle, turned it on, and drove it out to the street [TB 82-83] He couldn't tell what gear it was in when he got in, but does recall shifting the vehicle [TB 83]	None [TB 80]	100% sure he put the car in park because shifter had P lit and screen said P [TB 81, 84]

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Plaintiff	Incident Number	Vehicle On/Off	Emergency Brake On/Off	Seatbelt On/Off	Warning Chime	Injury/Damage to Vehicle or Property	Pre- or Post-Recall Remedy
	6	On [JA 189, 214]	Off [JA 192]	Off [JA 188, 189]	--	None [JA 186]	Pre [JA 186]
	7	On [JA 214]	Off [JA 192]	On [JA 192-193, 268]	None [JA 272-273]	None [JA 193]	Post [JA 190-191]
Berken, Corinn	1	On [CB 180]	Off [CB 180]	No (her son got out of the vehicle) [CB 180]	Does not know [CB 182]	Yes, Grand Cherokee was damaged [CB 182] Her son's Vitara was also damaged [CB 184]	Pre (remedy not done) [CB 178, 273]
Bernal, Eliam <-goes by Marrero Bernal	1	On [EBM 113]	Off [EBM 114-115]	--	--	None [EBM 114-115]	Pre [EBM 111-112]
	2	Off [EBM 118]	Off [EBM 118]	--	Does not recall hearing "dinging" [EBM 118]	Minor shoulder bruise [EBM 116-117]	Pre [EBM 111-112, 117]
Brooks, Taylor	1	Off [TB 81]	Off [TB 84, 103, 105]	Off [TB 81]	--	Dent on right passenger side on back and scratch on back windshield [TB 78, 82, 84-85]	Pre [TB 187-188]



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	Incident Number	Incident Date	Duration of Ownership/Mileage at TOI	Incident Location	Incident Description	Other Occupants in Vehicle	Park Verification Prior to Rollaway
Colrick, Clare	1	Spring 2014, late evening [CC 32]	--	Rutgers University-Newark [CC 32] On a steep hill [CC 32]	Was picking up a passenger [CC 32] Shifted vehicle into park with engine running [CC 32] Vehicle moved backward, unsure how far [CC 32, 33] She applied brake to stop rearward movement [CC 32] Vehicle was in neutral, and not park [CC 32]	--	Doesn't remember if she checked to see if vehicle was in park or if she looked at the instrument panel [CC 32-33]
	2	December 6, 2014 [CC 34]	--	South Terrace in Short Hills [CC 34] On an incline [CC 34]	Was waiting for a passenger [CC 34] Shifted the vehicle into park with the engine running [CC 34] Vehicle moved forward down the road, unsure how far [CC 34, 35] Applied the brake and stopped vehicle movement [CC 34] Vehicle was in neutral, and not park [CC 34]	--	Doesn't remember if she checked to see if vehicle was in park or if she looked at the instrument panel [CC 35]
	3	February 2015, morning [CC 36]	--	Ramapo High School [CC 36] On an incline [CC 36]	Arriving to work [CC 36] Shifted vehicle into park with engine running and foot on brake [CC 36] Reached into backseat and brake pressure was released [CC 36] Vehicle moved forward or backward 2-3 feet [CC 36-37] Quickly reapplied brake pressure [CC 36] Vehicle was in neutral, and not park [CC 36]	--	--
	4	April 2015 [CC 37-38]	--	A court by a hotel [CC 37-38] On a steep incline [CC 37-38]	Shifted vehicle into park with vehicle still running [CC 37-38] Passenger exited vehicle to enter hotel [CC 37-38] Reached into glove compartment and foot eased off the brake [CC 37-38] Vehicle moved forward, unsure how far [CC 37-38] Reapplied pressure to brake stopping forward movement of vehicle [CC 37-38] Vehicle was in neutral, and not park [CC 37-38]	Passenger [CC 37-38]	Doesn't remember if she looked to see what gear she was in or at instrument panel [CC 38-39]
	5	July 2015 [CC 40]	--	Entrance to parking garage [CC 40] On a hill [CC 40]	Reaching for ticket to open the gate [CC 40] Shifted vehicle into park [CC 40] Foot was on brake and vehicle was running [CC 40] Reached out window to get the ticket and her foot eased off the brake [CC 40] Vehicle moved forward, unsure how much [CC 40-41] Quickly reapplied pressure to brake stopping the rearward movement of vehicle [CC 40] Vehicle was in neutral, and not park [CC 40]	--	--
Craig, Kris-Ann	--	--	--	--	She never experienced a rollaway incident in her Jeep [CC 59] She has had episodes where she thought it was in Park, but it wasn't, but she did not exit the vehicle in those instances. [CC 59]	--	--
Dial, Krystal	1* (many)	Happened <10 times in 2015 [KD 23] Happened <10 times in 2016 [KD 23-24] Happened 8-10 times in 2017 [KD 21]	--	--	When she thinks it's in park, it's actually in reverse or drive [KD 20-21, 115] She realizes instantaneously and rolls inches [KD 21] Doesn't know what the indicator light says [KD 115]	--	--

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Colrick, Clare	1	On [CC 32]	--	--	--	None [CC 33]	--
	2	On [CC 34]	--	--	--	None [CC 35]	--
	3	On [CC 36]	--	--	--	None [CC 37]	--
	4	On [CC 37-38]	--	--	--	None [CC 38]	--
	5	On [CC 40]	--	--	--	None [CC 41]	--
Craig, Cris-Ann	--	--	--	--	--	--	--
Dial, Krystal	1* (many)	On [KD 20]	--	--	--	--	Both [KD 26]

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	Incident Number	Incident Date	Duration of Ownership/Mileage at TOI	Incident Location	Incident Description	Other Occupants in Vehicle	Park Verification Prior to Rollaway
Felker, Debra	1	Winter of 2015/2016, early in morning [DF 118, 121]	--	Employee parking lot at work [DF 118-119]	Placed the car in park [DF 119, 120] Took her foot off the brake and went to open door [DF 120, 121] Had not exited vehicle at all [DF 121] Vehicle rolled forward and hit cement barrier at front of parking spot [DF 120, 123, 129] Pushed the gear shift quickly up again [DF 122] The vehicle was new and she was not accustomed to its push button start and stop and it was't her practice to open car door before turning off engine [DF 122] Doesn't recall if she looked at indicator light when rollaway began before she shifted to park [DF 123]	None [DF 124]	Did not verify with indicator light [DF 119]
	2	Late spring of 2016, early evening [DF 126, 127]	--	Her driveway [DF 127] Not on an incline [DF 110]	Put the vehicle in park [DF 127] Opened door and started to step out with left foot to open or close the chain link fence to get to garage [DF 127, 113-114] Vehicle kept moving forward [DF 127, 129] Jammed her right foot on the brake [DF 127] Shoved gear shifter up until it was in park [DF 128]	--	Verified on gearshift and dashboard that both said P [DF 127]
	3	Summer of 2016 [DF 132]	--	Doesn't recall [DF 133-134] Not on an incline [DF 134]	Pulled into a parking spot [DF 133-134] Put the vehicle in park [DF 133-134] Turned around to help her grandson get out of his car seat [DF 133-134] Vehicle started to roll into the concrete parking barrier curb [DF 133-134] Wasn't able to see what gear it was in as it rolled [DF 135] Put her foot on the brake [DF 135-136] Indicator said it was in park [DF 136]	Grandson in back [DF 133-134]	Verified she was in park [DF 135]
	4	August 2016 [DF 139]	--	Her driveway [DF 139] Not on an incline [DF 110]	Put vehicle into park [DF 139] Opened driver's side door to step out to open her gate [DF 139, 207] Vehicle rolled forward [DF 139, 142]	--	Verified she was in park on both shifter and dashboard that P was lit up [DF 141-142]
	5* husband was driving [DF 145]	August 2016 [DF 145]	--	Parking lot of restaurant [DF 146] Not an incline [DF 147]	Husband was driving [DF 145] Happened after he left the dealership [DF 146] Pulled into parking lot of restaurant and into a space [DF 146] Husband opened the door with the vehicle running [DF 146, 208] Vehicle rolled forward to concrete parking barrier [DF 146, 147, 149]	Plaintiff in passenger seat [DF 148]	Doesn't know if her husband verified [DF 148]
Fisher, Todd	1	May or June 2015 [TF 33]	--	--	--	--	--
	2	Fall 2015 [TF 33, 35]	--	Driveway [TF 115]	Swore he was in Park based on lighted P on dash [TF 115]	Dog [TF 115]	P on the dash [TF 115]
	3	Around December 2015 [TF 33-34]	--	Garage [TF 33-34]	His wife was driving and in garage, did not see indicator light but saw her put it fully into park [TF 34]	Her kids [TF 79]	--
	4	--	3000 [TF 114]		Vehicle appeared to be in park based on indicator light, positive he looked at indicator light [TF 114]	Wife [TF 114]	--
	5	Summer 2016 [TF 117]	--	Albertsons parking lot [TF 117]	Not sure if checked indicator light, ran back into store because he forgot something, vehicle moved 3-5 feet into alleyway [TF 117]	Wife [TF 117]	Checked indicator light [TF 117]
	6	12/24/2016 [TF 122]	--	Father's house [TF 122]	Pulled into driveway, thought it was in Park and wasn't,	Wife and step kids [TF 123]	Had checked indicator lights [TF 122] Looked down at console [TF 123]
	7	12/27/2016 [TF 122]	--	Garage [TF 124]	Pulling out, forgot paperwork, put in Park with engine running, ran back to house, vehicle started rolling backwards [TF 124]	No [TF 124]	--
	8	February 2017 [TF 127]	--	Garage [TF 127]	Indicator light said Park, partially left vehicle, started rolling backwards [TF 128]	No [TF 128]	Indicator light [TF 128]
	9	Around June 2017 [TF 128-129]	--	Going home [TF 129]	Forgot laptop on desk, put back in Park, undid seatbelt, opened door, made sure everything was good, then it started rolling forward [TF 129]	No [TF 129]	Was sure indicator light said P [TF 129]
	10	October 2017 [TF 130]	--	Office at work [TF 130]	Entered car to go to lunch, forgot phones, pulled back into parking space, put in park, checked light and console, undid seatbelt. Jeep was still running. Opened door, it started to roll back [TF 130]	--	Checked light and console [TF 130]

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Felker, Debra	1	On [DF 119, 121]	Off [DF 120]	--	--	None [DF 125]	--
	2	On [DF 127]	Off [DF 128]	--	--	None [DF 132]	--
	3	--	Off [DF 135]	--	--	None [DF 137]	--
	4	--	Off [DF 142-143]	Doesn't recall [DF 141]	--	None [DF 144-145]	Post [DF 139, 205]
	5* husband was driving [DF 145]	On [DF 146]	Off [DF 147]	--	--	None [DF 149]	Post [DF 205]
Fisher, Todd	1	On [TF 116, 170-171]	Off [TF 116, 162]	--	--	--	--
	2	On [TF 170-171]	Off [TF 116, 162]	--	--	Minor scratches [TF 116]	--
	3	On [TF 170-171]	Off [TF 116, 162]	--	--	--	--
	4	On [TF 170-171]	Off [TF 116, 162]	--	--	--	--
	5	On [TF 117, 170-171]	Off [TF 117, 162]	--	--	No [TF 117]	--
	6	On [TF 123, 170-171]	Off [TF 141, 162]	On [TF 123]	--	--	--
	7	On [TF 124, 170-171]	Off [TF 141, 162]	Off [TF 124]	--	--	--
	8	On [TF 128, 170-171]	Off [TF 141, 162]	--	--	No [TF 128]	--
	9	On [TF 129, 170-171]	Off [TF 141, 162]	Off [TF 129]	--	No [TF 129]	--
	10	On [TF 130, 170-171]	Fairly confident was on [TF 131] or Off [TF 162]	Off [TF 130]	--	No [TF 130]	--

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Foreman, Kelli	1	2 years ago [KF 97]	--	Child's daycare [KF 96-98, 258-259]	Daycare is on an incline, didn't turn the vehicle off and upon stepping out, it started to roll, gearshift indicator light was Park at the time of this incident [KF 96-98, 197]	--	--
Gillispie, Ashley	1	August 31, 2015 [AG 93]	4000 miles [AG 93]	Parents' house [AG 93]	Drove the Jeep to her parents' house, parked the vehicle in their driveway, put it in Park using the gear shifter, shifted upwards and looked at the dashboard, didn't shut the vehicle off, got out of the vehicle, vehicle wasn't moving at that point, stepdad saw the Jeep take off 5 minutes later, had sideswiped a trampoline and hit a tree [AG 93-96, 98]	None; everyone was inside the house [AG 97]	She shifted upwards and looked at the dashboard [AG 95, 96]
	2	November 2017 [AG 111]	Not specifically mentioned	Dangerfield State Park [AG 112]	Driving 5 mph, had just dropped off her 9 year old, drove robably 100 yards, Jeep started rolling backwards, slammed on the brake, looked down at the shifter and it was in Neutral, put it in Drive [AG 112, 113]	Unclear	N/A
Goldsmith, David	1	August 24, 2015 (9 days after purchase) [DG 17-18]	--	Work [DG 17-18]	Vehicle rolled forward after he thought it was in Park [DG 17-18]; got in his vehicle, reversed about six feet, stopped, put the vehicle in Park, stepped out of the vehicle to move a traffic cone to save his spot, got around the door and realized the car was moving, ran back around the door to get his foot in the vehicle and on the brake [DG 67-68]; as he exited the vehicle, the vehicle rolled forward approximately 10 to 12 feed into a fence post, was on level ground, behaved as if it was in Drive [DG 83]	--	Doesn't recall whether he looked at the indicator on the shifter or the instrument panel before getting out of the vehicle [DG 79]
	2, 3	Prior to the recall [DG 91]	--	Mailbox [DG 90, 91]	Recalls at least two other incidents where, "I would pull up to -- and this was after -- I would pull up to my mailbox and start to get out of the car, and after thinking I put it in park and as soon as my foot hit the ground, it would -- I would feel it roll a couple of inches, and I would get back on the brake ..." [DG 66, 92]	--	Doesn't recall whether the indicator and instrument panel correctly indicated what gear he was in [DG 80]
Gunnells, Jacob	1	Sometime between when he purchased the car and the end of 2015 [JG 72]	--	Bunkey's car wash [JG 72]	As the car wash technician got out of the car (after he brought the car out of the car wash and around to the area where they would dry it off), the car continued rolling forward slightly, another technician who was right there with him saw what was happening and quickly yelled for him to get back in the car, and the door was still open, so he was able to jump back in and put it into Park [JG 73]	--	--

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Foreman, Kelli	1	On [KF 96-98]	--	--	Sometimes the vehicle tells her that it is not in the desired gear when she tries to shut it off and she has to repeat the sequence before shutting it off [KF 101]	No [KF 120]	Has not had the recall repair [KF 32, 50-52, 167] or took her vehicle in to be serviced for all of the recalls so she feels it has been fixed [KF 31-32]
Gillispie, Ashley	1	On [AG 96, 97]	Off [AG 97]	Off (out of the car) [AG 97]	--	\$8000 worth of damage [AG 53-54, 152]	Has not had recall performed [AG 122]
	2	On [AG 112]	Off [AG 112]	Unclear	--	---	
Goldsmith, David	1	On [DG 68]	Off [DG 68]	Off [DG 67-68]	--	Hit the fence that surrounds the generator [DG 67-68]; just under \$1,300 worth of damage [DG 83]	Pre. Remedy performed on July 20, 2016 [DG 21, 81]
	2, 3	On [DG 67]	--	--	--	--	--
Gunnells, Jacob	1	--	--	--	--	None [JG 76]	Post [JG 92-93]

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	Incident Number	Incident Date	Duration of Ownership/Mileage at TOI	Incident Location	Incident Description	Other Occupants in Vehicle	Park Verification Prior to Rollaway
Guy, Jeffrey	1	Within a couple of weeks of purchasing vehicle [JG 36], February 2015 [JG 38]	--	His driveway [JG 36]	He pulled into his driveway, he put the vehicle into park, he removed his foot from the brake, and the vehicle started to roll backwards as it was in reverse [JG 36], he doesn't recall whether he looked to see whether the gear was in park [JG 36], he did not have enough time to enter into the parking brake before it rolled, [JG 36-37], it rolled no more than a foot [JG 37], he put his foot on the brake pedal and then put it into park, ensuring that it was in park [JG 37], there was no damage, he wasn't injured, no one else was injured [JG 37], when he put it into park, he used the parking brake [JG 37]	Alone [JG 40]	He used the parking brake after it started to roll [JG 37]
	2	2015 [JG 38]	--	His driveway [JG 39]	Similar to the first incident [JG 38], he believed the vehicle was in park and yet it was in reverse [JG 39], He was pulling into his driveway, he started to remove his foot from the brake and the vehicle began to move. The vehicle moved inches. He put his foot back on the brake and pushed the gearshift forward again into park. He did put the parking brake on at that time. There was no damage or anyone injured in that occurrence. He did not report the incident to anyone. He was still in the belief that this was his fault. [JG 39]	Alone [JG 40]	He used the parking brake after it started to roll [JG 39]
	3, 4, 5, possibly 6	--	--		He doesn't recall whether there was anyone else with him on the third occurrence. All occurrence that he recalls were all very similar in nature. There was one occurrence that occurred when he was pulling into a parking spot. It was either the third occurrence, or a later occurrence, he does not recall. The parking spot was at a shopping area. It was on a flat surface. [JG 40], He does not recall whether it was still in 2015. He does not recall if he was by himself. He recalled that in every incidence the vehicle moved. He did not report it to anyone. After the second to third occurrence, he did not know who to report to. He does not remember the fifth occurrence. He does not remember the particulars of the fifth or sixth occurrence. [JG 41]	--	--
Hackett, Danielle	1	May 2016 [DH 81-82]	A few months after purchase [JH 172]	Daughter's prom, Brookfield High School parking area [JH 172-173]	She was the driver. They parked. She was getting her camera out of the glove box and her lip gloss and putting her lip gloss on before she got out of the car. The car was still running. They were getting out, Jacob was the first person partially out of the car. As he got out, as he was getting out he screamed something to the effect of, Mom the car is moving. And she hit the brakes. And she kind of felt the car, they weren't going fast, but that quick reaction makes the car jolt a little bit. And the car was not in park [DH 82], She was still in the vehicle when this happened. Her husband was still in the vehicle. Everyone was on the way out, their doors were all open. Her door was not open. She doesn't know if Jacob's feet were on the ground but he was partially out of the car [DH 82]	Joby was the front seat passenger. Jacob was sitting behind her, and Warren was sitting behind Joby. [DH 82]	She doesn't ever look at the shifter because it's obscured by her hands, so she just doesn't use it [DH 83], She doesn't think she visually confirmed her gear on the dashboard for the incident [DH 84], she does not think she visually confirm that the vehicle was in park [DH 122]
Hackett, Joby					Danielle stopped the vehicle, assumed what was into park. He thinks she reached in to possibly put some lip gloss or makeup on out of the center console, glove box, something. His son Jacob was going to step out of the vehicle and then he just kind of yelled like Hey, mom, the vehicle is rolling away. So he thinks at that point she would have just depressed the brake pedal and stopped the vehicle [JH 172-173]		
	2	A few months after the first [JH 176]		Driveway [JH 176]	He recalls one other time the vehicle rolled. It was maybe a few months later. He thought there was something in the driveway that she had said but he wasn't present with it. He didn't see the second time occur [JH 176], She told him that she went to put the car in park again and he doesn't know if she was going to get out of it or what exactly, that it slightly started to roll again but she was able to stop it again also [JH 176-177]	. He's not sure who else other than his wife witnessed the second incident. He doesn't know if there was anyone else in the car [JH 178]	--



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Plaintiff	Incident Number	Vehicle On/Off	Emergency Brake On/Off	Seatbelt On/Off	Warning Chime	Injury/Damage to Vehicle or Property	Pre- or Post-Recall Remedy
Guy, Jeffrey	1	On [JG 36]	Off [JG 36-37]	--	--	None [JG 37]	Pre [JG 126-127]
	2	On [JG 38-39]	--	--	--	None [JG 39]	Pre [JG 126-127]
	3, 4, 5, possibly 6	--	--	--	--	--	--
Hackett, Danielle	1	On [DH 82, 123]	Off [DH 117, 123]	--	--	Her son was not injured as a part of this incident and there was no property damage [DH 84]	Pre [DH 92]
Hackett, Joby							
	2	He doesn't know whether the ignition was on at the time it rolled [JH 177]	He doesn't know whether she put the parking brake on that time [JH 177]	--	--	No one suffered personal injuries in the second incident. There was no property damage resulting from the second incident [JH 179]	--

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	Incident Number	Incident Date	Duration of Ownership/Mileage at TOI	Incident Location	Incident Description	Other Occupants in Vehicle	Park Verification Prior to Rollaway
Hartt, Bernadine	1	About six months after purchase [65]	--	Driveway [BH 58]	She was trying to put her car in park and get out, it started rolling back [BH 58] She put one foot out of the car and car started rolling back [BH 59] She was able to stop the vehicle by putting her foot on the brake. Was able to put it into Park. Then shut the car off and went in the house [BH 60]	No [BH 214]	Is sure she checked for a P on the shifter [BH 59] Saw a P before getting out of the car [BH 69-70]
	2	Does not recall [BH 63]	--		She pulled in, put it in Park, then it started rolling back and was not in P. Does not recall if she was getting out of the car during second incident [BH 63, 64] Was able to stop the car with the brake. After that, put the car in Park, made sure it was in Park, shut the car off and went in the house [BH 64]	No [BH 214]	When she pulled in and stopped she looked for a P and was sure there was a P [BH 64] Saw a P before getting out of the car [BH 69-70]
	3	About a month before deposition [BH 66]	--	Driveway [BH 66]	She was in her driveway about to get out of the car. She put the car in Park, saw the P, put one foot out of the car and it started rolling She got in, hit the brake, put it back into Park and shut it off [BH 66-67]. Undid her seat belt, opened the door, put her foot out of the door, and felt the vehicle starting to roll back [BH 68] Pulled into the driveway, put it in Park, shut the vehicle off, placed her foot out, car was rolling backwards [BH 262]	No [BH 214]	Pushed the shifter up to Park, made sure it was in Park [BH 68] Saw a P before getting out of the car [BH 69-70]
Havnen, Pamela	1	March 31, 2016 [PH 44]	--	Fleet & Farm parking lot [PH 91-92]	She parked a little farther out in the parking lot. She pulled in and put her car into park. She was sitting there gathering her stuff and she believes that a car passed or the beepers on the side of it were going off. She looked in reverse and was almost into the parking lot that was next to the curb. She was rolling backwards to the very last part of the parking lot. [PH 91-92] Had taken her foot off the brake before shutting the vehicle off [PH 92] She was about ready to get out after she gathered up all her stuff and pushed the button and get out, and that's when she noticed it and looked in her rear-view mirror [PH 93]	No [PH 103]	Shifted all the way up until it stopped, does not remember if she checked the instrument panel to see the shifter position [PH 94]
	2	February 10, 2018 [PH 96]	--	Webster City, Florida [PH 96] Flat surface [PH 97-98]	Her husband was driving, they pulled up to the dumpster, she knows he shifted into park. She was going to get out and throw the garbage away, as she opened the door the vehicle was rolling backwards. [PH 96] She told her husband the vehicle was rolling, he put his foot on the brake. The vehicle rolled at least half the vehicle length [PH 97]	Husband was driving [PH 96]	She knows her husband put it into park [PH 96]
Hughes, Marc	Never [MH 26, 100, 184-185]	--	--	--	--	--	--
Hyatt, Robert	1	--	--	Driveway, which has slight incline [RH 85-86]	Pulled forward into his driveway, the engine was still running when he put the gearshift into park, opened the door, because he intended to open the garage door. He looked at the gearshift with the lighted "P", the vehicle continued forward. He immediately applied the brake and reposition to park on the gearshift. The vehicle rolled one to two feet [RH 85-86]	No [RH 85-86]	Looked at the gearshift and the "P" was illuminated [RH 85-86]
	2	--	--	Driveway [RH 87-88]	Pulled into the driveway, put vehicle into park, does not recall if he looked at the gearshift. The engine was still running, he intended to open the garage manually. He was getting ready to exit the vehicle, and it started rolling forward. Immediately applied the brake and repositioned the gearshift to park. The vehicle rolled one to two feet [RH 87-88]	No [RH 87-88]	Does not recall if he looked at the gearshift to see if the vehicle was in park [RH 87-88]

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Plaintiff	Incident Number	Vehicle On/Off	Emergency Brake On/Off	Seatbelt On/Off	Warning Chime	Injury/Damage to Vehicle or Property	Pre- or Post-Recall Remedy
Hartt, Bernadine	1	Turned the ignition off [BH 69]	--	--	--	No one was injured, the vehicle was not damaged, there was no damage to any other property [BH 213-214]	--
	2	Turned the ignition off [BH 69]	--	--	--	No one was injured, the vehicle was not damaged, there was no damage to any other property [BH 213-214]	--
	3	Turned the ignition off [BH 69]	--	Off [BH 68]	--	No one was injured, the vehicle was not damaged, there was no damage to any other property [BH 213-214]	Post [BH 69]
Havnen, Pamela	1	On [PH 92]	No [PH 95]	--	--	Vehicle did not hit anything and she was not injured [PH 93]	Pre [PH 96]
	2	--	--	--	--	Not injured [PH 107]	Post [PH 96, 116]
Hughes, Marc	Never [MH 26, 100, 184-185]	--	--	--	--	--	--
Hyatt, Robert	1	On [RH 85-86]	Off [RH 92]	--	--	No injury or damage [RH 85-86]	Pre [RH 58]
	2	On [RH 87-88]	Off [RH 92]	--	--	No injury or damae [RH 87-88]	Pre [RH 58]

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Plaintiff	Incident Descriptions						
	Incident Number	Incident Date	Duration of Ownership/Mileage at TOI	Incident Location	Incident Description	Other Occupants in Vehicle	Park Verification Prior to Rollaway
Lynd, John	1	December 2014 [JL 121]	--	Saratoga Racino Valet [JL 121, 125-126]	Pulled up to valet and threw it in park. His fiancée opened that door to get out and was looking through her purse. He exited the vehicle and it started to roll. The valet yelled to put it in park and he ran to put it in park position [JL 121]	fiancée [JL 121]	Does not know whether the light indicated park when he exited the vehicle, believed he was in park [JL 125-126, 132, 150, 288]
	2	Spring 2016, daytime [JL 145-146]	--	Driveway [JL 145-146]	He was backing up his driveway on an incline, had flowers in the back and was going to unload it. He had the vehicle in reverse, and had to get out to take stuff out. He put the vehicle in park. He opened the door to get out. The vehicle was still running. He wanted to open the lift gate, but it would not open. He could see through the window to the dashboard that the vehicle was in reverse, so he was unable to open the lift gate [JL 146-147] Could feel the vehicle start to move, quickly moved out of the way, ran over and put it in park [JL 148]	--	Believes he looked at the dashboard and it was in park [JL 146, 148]
	3	Last week [JL 153]	--	Grocery store [JL 154]	Dropped his wife off to go food shopping, the car started to roll when the driver's side door was open. Vehicle was at a complete stop and his seat belt was on [JL 154] He believed it was in park, based on shifting into park [JL 153-154]	--	He engaged the shifter, moved it into park and then it returned to its center position [JL 153-154]
	4	Last weekend [JL 155]	--	Jersey, in his mother's driveway [JL 155]	The vehicle was at a complete stop, his seat belt was on, he opened the door and the vehicle was in reverse. [JL 155]	--	The vehicle was in reverse [JL 155]
Machtley, Todd	1	Winter, perhaps near his daughter's birth of December 9 2015 [TM 83] Late morning [TM 93]	around 10,000 miles [TM 82]	Driveway of current residence [TM 83]	His daughter was in the back, screaming. He pulled into the driveway, hit the garage door button. His wife was parked in the garage so he could not use it. He was trying to hurry to figure out what was wrong with his daughter. He opened the driver's side door, the car was still on. Car started to move and he was able to put his foot on the brake. He realized the car was in Reverse, the camera was on. Believes he tried to put it in park but just didn't achieve Park [TM 83-84] The car moved a few inches [TM 85]	Daughter in back seat [TM 83]	Tried to put the car in Park, but did not achieve Park [TM 84]
	2	Mid-afternoon [TM 93]	around 13,000 miles [TM 83, 86]	Driveway [TM 86]	Very similar to first situation. His daughter was screaming, he put it in park, start to get his daughter, and the car started moving, car was in Reverse [TM 86] Was able to stop the car and put it in Park [TM 87]	Daughter in back seat [TM 86]	Thought the vehicle was in Park, but realized he only had it in Reverse [TM 87]
Mack, Janella	1	April 24, 2016 [JM 84-85]	--	Parking on the street at 21218 112th Road in Queens Village, NY [JM 85]	She was parking on the street at her grandmother's [JM 85] She was parallel parking, she placed the vehicle in Park. She proceeded to gather her bags when her car rolled back, striking the vehicle behind her. [JM 86] Had taken her foot off the brake after placing the car in Park [JM 87] Once she struck the vehicle behind her, she put her gearshift in Drive, pulled up a bit and put her car in Park again. As she was almost exiting the vehicle, it did the same thing. She got back in her vehicle, closed the door, put it in Drive again, moved up, put her car in Park and put the emergency brake on [JM 89, 96] The second time it rolled back she had placed one leg out the door and the leg was injured [JM 224] She did not turn the vehicle off, her cousin turned it off for her [JM 224-225]	No [JM 93-94]	Is positive that she saw indications that her vehicle was in Park, the gear shifter and display on the dashboard both said Park, "P" [JM 86] The second time she put in Park she checked the indicator on the shifter [JM 89] Does not believe that she failed to achieve Park before exiting the vehicle [JM 147]
Magnuson, Ann	1	February 2016 [AM 84] Around 10 a.m. [AM 92]	--	Parking lot at beauty salon [AM 84] On an incline [AM 86]	She pulled into the parking lot, put it in Park and turned the vehicle off. She turned in her seat so her back was facing the shift paddle. She looked to get out and realized the car was backing up. There was no way to get back to the shifter. She realized she was going to get hurt so she jumped out and rolled away from the car because she didn't want the car to run over her legs [AM 84-85] She wasn't looking out the window, she was facing the door [AM 85] She did not see what the console said right before she tuck and rolled [AM 85] Vehicle rolled away into a snow fence [AM 88] Does not think it is possible she did not put the vehicle in park [AM 98]	--	She knew it was in Park because indicator said "P" [AM 85, 199]

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Lynd, John	1	On [JL 121, 131]	--	off [JL 121]	--	No [JL 285]	Pre [JL 121, 178]
	2	on [JL 147]	--	Off [JL 147]	--	No [JL 147, 285]	Pre [JL 146]
	3	--	--	On [JL 154]	--	No [JL 285]	Post [JL 154]
	4	--	--	On [JL 155]	--	No [JL 285]	Post [JL 155]
Machtley, Todd	1	On [TM 83]	No [TM 90]	--	--	No [TM 85]	Pre [TM 133]
	2	On [TM 83, 86]	No [TM 90]	--	--	No [TM 87]	Pre [TM 133]
Mack, Janella	1	On [JM 87, 91]	No [JM 89, 116-117]	On during second rollaway [JM 92]	No [JM 88]	No damage to her vehicle, she hit and damaged the vehicle behind her [JM 94] Her leg was injured [JM 224]	Pre: April 24, 2016 [JM 84-85]
Magnuson, Ann	1	Off [AM 84] The man who moved the vehicle after the accident said the vehicle was on [AM 89]	No [AM 86]	Yes [AM 87]	No [AM 92]	Vehicle crashed into a snow fence [AM 88] Limited damage to the vehicle [AM 89] She was not injured [AM 87]	Pre [AM 98]

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	Incident Number	Incident Date	Duration of Ownership/Mileage at TOI	Incident Location	Incident Description	Other Occupants in Vehicle	Park Verification Prior to Rollaway
Marble, Trevor	1	November of 2015 [TM 88-89]	--	Driveway, which has slight incline [TM 90]	He had forgotten something he need from his house. He was in a hurry. He was in the driveway, jumped out of the car and it started to move. He had to jump back in and put it in to park [TM 89] When he got back in the vehicle he saw it was in reverse [TM 91] Does not believe the vehicle put itself in reverse, he thought he pushed it in park and it didn't get all the way forward [TM 91]	--	He thought it was in park, had pushed it all the way forward [TM 90]
	2	February of 2017 [TM 92]	--	Garage [TM 92-93]	He was running into the house to get something, he thought it was in park and it wasn't. The vehicle was on and the door was open [TM 93] They had just gotten home, to go into the house and get something and come back out [TM 93-94] Took his seatbelt off to get out of the vehicle [TM 94-95] It is possible his vehicle was still a little bit in motion when he put it in Park [TM 95] He opened the door and began stepping out when he realized the vehicle had started slightly rolling back. He had one foot out of the car. He was able to get back in the car and put it in park. He saw it was in reverse [TM 95] He does not believe that the car put itself in reverse. He believes he did not push it all the way forward and achieve park [TM 96] Vehicle moved about a foot [TM 96]	Partner [TM 93]	Is possible that he tried to put vehicle in Park when still moving [TM 95]
McDonald, Kean	1	In the evening [KM 20]	A year or more into his ownership [KM 16]	His garage [KM 15] Not on an incline [KM 15]	He was pulling into his driveway [KM 15] Put vehicle into park and turned it off with push button [KM 15, 17, 68-69] Stepped out of vehicle [KM 15, 17, 80] Vehicle abruptly moved forward a bit [KM 15, 17] He jumped back in and double checked it was in park and off [KM 15, 18] Applied brake, pushed button on shifter and jammed it forward it into park, and turned it off [KM 16, 19] He did not observe if gear indicator changed [KM 19] Got out again and vehicle did not roll [KM 18]	--	He is sure it was in park; he did what he always did [KM 69]
Metzger, John	*Wife had incident	--	--	--	--	--	--
Metzger, Mary	1	Christmas 2015 or 2016, at 11:00 am [JM 41; MM 214]	--	Driveway [JM 42; MM 216] Somewhat of an incline [MM 216]	She had been in the house and went outside to get in the vehicle her son [MM 212-220] They sat in the car and chatted for a few minutes while car was running [MM 212-220] Her foot was on the brake [MM 212-220] She put the car in reverse and backed up and pulled down the driveway [MM 212-220] Wanted something from the house and asked her son to get it for her [MM 212-220] As he did that, she wanted to throw a few things in her console in the trash [MM 212-220] She stopped the car, put her foot on the brake, and shifted to park [JM 42; MM 212-220] Stepped out of her car to put things in the trash can right beside her car [JM 42; MM 212-220] The car started to move forward [JM 42; MM 212-220] She tried to grab the wheel and get back in the car, but lost her balance and fell [KM 43; MM 212-220] The back driver's side tire ran over her legs [MM 212-220] The car went down and stopped when it hit her son's car [JM 43; MM 212-220] Her son recovered the car but didn't tell her what position shifter was in [MM 212-220]	Son (right before) [MM 207, 212-220]	Saw P on the shifter [MM 212-220] Doesn't remembre if she paid close attention to the P on the dashboard [MM 212-220]

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Marble, Trevor	1	On [TM 90]	No [TM 90]	Off [TM 91]	Does not recall [TM 98]	No [TM 88]	Pre [TM 92]
	2	On [TM 93]	No [TM 93]	Off [TM 94-95]	Does not recall [TM 98]	No [TM 88, 96]	Post [TM 94]
McDonald, Kean	1	On [KM 80]	--	--	--	--	Pre [KM 80]
Metzger, John	*Wife had incident	--	--	--	--	--	--
Metzger, Mary	1	On [MM 212-220]	Off [MM 212-220]	--	--	She injured her calves [JM 43] Vehicle and son's vehicle required repairs [JM 45]	--



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Nathan, Michael Vincent	1	"Not long after purchase" [MN 116]	--	Driveway [MN 129-130]	Put it in Park, shut off the car, gotten halfway out, and the car rolled backwards [MN 116-117, 122-125] Vehicle has rolled away or started to roll away [MN 131-132]	--	--
	2	A month after first incident [MN 129-130]	--	Driveway [MN 129-130]	Roll away [MN 131]	--	--
	3-5 times [MN131-132]	--	--	--	Roll away [MN 131]	--	--
Perkins, Casey	1	First two weeks or so of ownership [CP 273]	First two weeks or so of ownership [CP 273]	Checking mail at neighborhood mail box [CP 201]	Went to check the mail, put the car in Park, as he got out of the vehicle and put one foot on the ground, he felt it starting to move, so he hit the brake and saw that the vehicle was in Reverse [CP 201-202]	No [CP 204]	Did not check the dashboard indicator because the steering wheel was rotated and the sunlight was obscuring the indicator on the shifter [CP 201-203, 206-207]
	2	First two weeks or so of ownership [CP 273]	First two weeks or so of ownership [CP 273]	Garage [CP 207-208]	Removed seat belt, put the shifter in Park, placed on foot on the ground outside the vehicle, removed his other foot from the brake, and the car started to roll backward. He spun around, put his foot back on the brake and saw the vehicle was still in Reverse [CP 207]	No [CP 212]	Off [CP 208]
	3	First two weeks or so of ownership [CP 273]	First two weeks or so of ownership [CP 273]	Garage [CP 272-273]	Wife got out of the running vehicle and it rolled after she lifted her foot off the brake. She noticed it was in Reverse [CP 272-273]	No [273]	She did not look at the dashboard before exiting the vehicle [CP 273]
Phelps, Cameron	1	June of 2016 [CP 104]	--	His driveway [CP 104]	Pulled into his driveway, put the car in Park, exited the vehicle "halfway", noticed it started moving forward, put his foot on the brake, and shifted into Park again [CP 104-105] Vehicle was parked on a slight incline and he estimates it moved 1-5 feet [CP 110]	No [CP 107]	Does not recall if he looked at the gear indicator [CP 105]
Schultz, Charles	1	March 2016 [CS 125]	--	His driveway [CS 125]	Was at the end of his driveway, placed the Jeep in Park, exited the vehicle, and it did not move. As he walked back to his house, the vehicle began to roll backwards and into his wife's car, after which he was able to get back in the Jeep [CS 125-126]	--	the screen for the backup camera was not lit; saw P indicator illuminated on the shifter and dashboard [CS 125-126]
Scott, Melvin	1	July (sometime before October 2016) [MS 28, 44-45]	--	Work [MS 27]	Pulled into his parking spot, put the vehicle in park, attempted to grab his belongings, and experienced a rollaway (backwards) [MS 27]	No [MS 28]	remembers looking at the gearshift to see what gear the vehicle was in when he tried to put it in Park [MS 135]
	2	Summer or April 2016 (sometime before October 2016) [MS 30, 43, 44-45]	--	Home [MS 29]	pulled into his garage, upon preparing to exit the vehicle after it was in park, it seemed to slip out of Park and began to roll back [MS 29]; shifter was in Park when he tried to exit the vehicle [MS 134];	No [MS 29]	looked at the gearshifter and saw the illuminate P symbol but doesn't recall looking at instrument cluster [MS 29, 137]

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Nathan, Michael Vincent	1	--	On [MN 118]	--	--	No [MN 119]	--
	2	--	--	--	--	--	--
	3-5 times [MN131-132]	--	--	--	--	--	--
Perkins, Casey	1	On [CP 207]	Off [CP 204, 207]	Off [CP 204]	--	No [CP 206]	Pre [CP 199-200, 273]
	2	Off [CP 208]	Off [CP 208]	Off [CP 207]	--	No [CP 212]	Pre [CP 199-200, 273]
	3	On [CP 272]	Off [274]	--	--	No [274]	Pre [CP 199-200, 273]
Phelps, Cameron	1	On [CP 104, 118]	--	--	--	No [CP 107]	Pre [CP 104, 150-151]
Schultz, Charles	1	On [CS 107-108, 127-128]	Off [CS 115-116, 127-128]	--	--	--	Post [CS 125, 194-195]
Scott, Melvin	1	On [MS 43]	Off [MS 30]	--	--	No [MS 28, 30]	October 2016 [MS 43]
	2	On [MS 43, 137]	Off [MS 30, 138]	--	--	No [MS 30]	October 2016 [MS 43]

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Stedman, Karen	1	--	--	Parking spot [KS 79-80] Pretty flat--might have a slight incline, but basically flat [KS 79-80]	Stopped at the mailbox to check her mail [KS 79-80] Pulled into the parking spot and thought her car was in park [KS 79-80] Took her foot off the brake and went to exit [KS 79-80] Did not use parking brake because she wasn't parking [KS 79-80] Before she was completely out of the vehicle, the car rolled forward [KS 79-80] She immediately jumped back in and stepped on the brake [KS 79-80] Doesn't know what gear it was in when she got back in [KS 79-80]	None [KS 81]	Doesn't recall if she looked at the shifter; did not look at the dash [KS 79-80]
	2	Couple of months after the first incident [KS 82]	--	--	Was pulling up to a gas pump [KS 82] Thought she was in park [KS 82] Was going to quickly exit the vehicle to see if she was in line with the gas pump [KS 82] Car started to roll away [KS 82] She quickly jumped back in and stepped on the brake [KS 82] Doesn't know what gear the vehicle was in [KS 82-83]	--	Did not check the shifter or dash [KS 82-83]
Stewart, Dustin	1	About a year about purchasing the Jeep, April 2016 [DS 79] Approximately February 2016 [DS 82]	Does not recall [DS 83]	Parking lot [DS 83]	He didn't park in a parking spot, he pulled to the side where no cars were, so he could get out and take care of what he needed to. When he exited the vehicle, he heard his wife and children. As he was turning he looked back, and his vehicle wasn't in the same spot it was when he stepped out. So he quickly turned as fast as he could and quickly got back into the car and jumped on the brake. That's when the car jolted and stopped [DS 83] No incline [DS 93]	His wife and children [DS 83]	He did not visually confirm that his vehicle was in Park. He does not remember if he looked at the dashboard. He does not recall whether he looked at the electronic gear shifter to confirm that he was in park. [DS 84]
	2	Does not recall [DS 80-81] Couple of months after the first incident [DS 90]	Does not recall [DS 80-81]	Parking area right in front of an automatic car wash [DS 90]	He exited the vehicle and it began to roll forward [DS 91] Vehicle was on a slight incline and moving slower than in the first incident. The vehicle rolled about two feet, by which time he was able to re-enter it and apply the brake [DS 92]	No [DS 91]	He did not confirm the vehicle was in Park when he originally put it in Park [DS 91] After the incident, he first placed the shifter in Neutral then in Park, which he confirmed visually by looking at the shifter and dashboard [DS 92, 93]
Vosburgh, Bruce	1	May 1, 2017 [BV 163-164]	--	Pennsylvania Turnpike [BV 21, 163]	Car overheated and revved like it was in "standard" (manual shifting mode) while driving. He pulled over, turned the engine off, checked the hoses and started the engine back up 5-10 minutes later without issue. He does not remember the dashboard indicator position. [BV 21] He has not experienced rollaway incidents [BV 18]	--	--

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Plaintiff	Incident Number	Vehicle On/Off	Emergency Brake On/Off	Seatbelt On/Off	Warning Chime	Injury/Damage to Vehicle or Property	Pre- or Post-Recall Remedy
Stedman, Karen	1	--	Off [KS 79-80]	--	Does not remember a chime [KS 79-80]	None [KS 81]	--
	2	--	Off [KS 82-83]	--	Does not remember a chime [KS 82-83]	No [KS 83]	--
Stewart, Dustin	1	On [DS 84]	Off [DS 84]	Off [DS 83]	--	No [DS 87]	Pre [DS 82-83]
	2	On [DS 93]	--	Off [DS 93]	--	No [DS 94]	Pre [DS 99]
Vosburgh, Bruce	1	On [BV 21]	Off (vehicle was being driven on turnpike) [BV 21]	--	--	No [BV 111]	If May 1, 2017, then post recall [BV 138]

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Plaintiff	Incident Descriptions						
	Incident Number	Incident Date	Duration of Ownership/Mileage at TOI	Incident Location	Incident Description	Other Occupants in Vehicle	Park Verification Prior to Rollaway
Waggoner, Jay	1	--	--	His driveway [JW 93]	Put in park, turned off car, got out, and door hit him and car was going backwards. Jumped back in, braked, put in Park. Driveway not on incline. Restarted vehicle, put in drive and put back where he parks it [JW 93] When he jumped back in, vehicle was in reserve [JW 94] Was able to shift from reverse to park with vehicle off, he stepped on the brake and shifted up to park [JW 95]	No [JW 95]	Before rollaway, he had visually confirmed Park by looking at shift lever. Probably glanced at dashboard [JW 94]
	2	--	--	Grocery store parking lot [JW 96]	Got out of vehicle, was shut off. Did not use parking brake. When he started walking away, car was rolling backwards, he had to chase it. Didn't hit any vehicles. Lot was flat. Had to unlock vehicle with key fob, get back in as he's walking backwards with it, jumped in, hit brake. Gear was in reverse [JW 97] Shifted into park, turned vehicle on, pulled into space, put in park, shut off, used parking brake this time [JW 98]	--	Looked down at the park emblem next to the shifter, it was lit up [JW 96] Checked dashboard as part of routine [[JW 96-97]
	3	--	--	Walmart parking lot [JW 99]	Pulled into space, put into park, proceeded to get out. Didn't use parking brake. Visually had confirmed it was in park, on shifter and dashboard [JW 99] Turned vehicle off after visually confirming park. Didn't make it all the way out of vehicle, looked at ground and saw he was moving backwards. Shut the door, put his foot on the brake and put into park, from reverse. Then turned on, put in drive, pulled into space. Light came on that said park, dash light said park, used parking brake. Shut off, exited vehicle. [JW 100]	No [JW 101]	Visually had confirmed it was in park, by looking at shifter and dashboard [JW 99]
	others	--	--	--	Had approximately 21 incidents with his 2014 Chrysler 300, including him walking away from the vehicle and it just shifting back into his hand and him putting it back into park [JW 92] 8 incidents were with his wife [JW 101] Wife witnessed him putting car in park and shifter bouncing back out of park into reverse in his hand. She did not witness any other shifting issues. The shifting from park to reverse issue is the only one he's had [JW 101, 102] One incidents was with wife's mother. With wife's mother, pulled into driveway and put his foot on the brake in the driveway. Put into park, and she said it jumped out of park, it's in reverse, and we're rolling backwards. He braked and put back into park. Car was still running at the time. Shut vehicle off, used parking brake [JW 102-103]	--	--
Webster, Cameron	1	A couple of months after purchase [CW 83]	--	Garage at home [CW 83]	He was returning home [CW 83] He put in what he thought was park, started to exit. Does not remember if he looked at shift lever indicator light, dashboard indicator light, or if he put on parking brake. Thinks he turned off ignition. Driver's door was open when vehicle began rolling [CW 84] Vehicle rolled no more than 6, 8 inches. Garage door was open. He stepped on brake, put in park to remedy. Does not know what gear the vehicle was in while rolling [CW 86]	Wife, possibly foster child [CW 83, 85]	Does not remember if he looked at shift lever indicator light, dashboard indicator light [CW 84]
	2	A couple of weeks after the first incident [CW 91]	--	Garage at home [CW 91]	Was returning home [CW 91] Attempted to achieve park but didn't actually achieve park. He had opened his door, does not remember if wife opened door. Didn't have backup camera yet [CW 91-92] Vehicle rolled backward [CW 91] Does not know specifically what gear it was when during 2nd incident rollaway [CW 92-93] Put his foot on the brake to stop the vehicle from rolling and put the vehicle back in Park [CW 93]	Wife, possibly foster child [CW 91]	Does not recall looking at dashboard or shifter indicator lights [CW 91-92]

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Plaintiff	Incident Number	Vehicle On/Off	Emergency Brake On/Off	Seatbelt On/Off	Warning Chime	Injury/Damage to Vehicle or Property	Pre- or Post-Recall Remedy
Waggoner, Jay	1	Off [JW 93]	Off [JW 94]	Off (he was outside vehicle) [JW 93]	--	--	--
	2	Off [JW 97]	Off [JW 97]	Off (he was outside vehicle) [JW 97]	--	--	--
	3	Off [JW 99, 100]	Off [JW 100, 101]	Off (he was getting out of vehicle) [JW 100]	--	--	--
	others	--	--	--	--	--	--
Webster, Cameron	1	He thinks the engine was off [CW 84, 87]	Does not remember [CW 84]	Has old police habit of taking off seatbelt before fully stopped to avoid entanglement upon exiting [CW 166-167]	No [CW 85]	No [CW 88]	Pre (few months after purchasing) [CW 35, 83, 152]
	2	Believes he turned off engine but does not specifically remember [CW91-92]	Does not remember [CW 91-92, 94]	Has old police habit of taking off seatbelt before fully stopped to avoid entanglement upon exiting [CW 166-167]	--	No [CW 94]	Pre, 2nd incident occurred probably within a couple weeks after 1st incident [CW 35, 91, 152]

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Plaintiff	Incident Descriptions						
	Incident Number	Incident Date	Duration of Ownership/Mileage at TOI	Incident Location	Incident Description	Other Occupants in Vehicle	Park Verification Prior to Rollaway
Wells, Lindsey	1	Does not remember [LW 55]	--	Flat parking lot [LW 65-66]	There was a guardrail that she parks in front off, and she recalls taking her foot off of the brake and the car not being in park and having to slam on the brakes because she was very close to the guardrail. The engine was still running and she was getting ready to exit the vehicle. Her normal practice is to take her foot off of the brake and then shut the vehicle off. [LW 67] The vehicle rolled forward [LW 68]	No [LW 68]	She does not remember whether she looked at the shifter or the instrument cluster to see what gear the shifter was in before taking her foot off the brake [LW 75-76]
	2	2016 [LW 55-56]	--	Outside detached garage of her house [LW 69]	It was daytime, the driveway was relatively flat. She went to put the car in park, then she took her foot off the brake, and again she rolled toward a barrier and slammed on the brake -- the engine was still running [LW 69-70] She does not know how far the vehicle rolled forward [LW 70]	No [LW 70]	She does not remember whether she looked at the shifter or the instrument cluster to see what gear the shifter was in before taking her foot off the brake [LW 75-76]
	3	Spring or Summer 2017 [LW 56, 73]	--	Flat parking lot [LW 65-66, 71]	She was pulling into work and she went to put the vehicle in park, let off the brake, and the car moved forward and she slammed on the brake [LW 71-72] She does not know how far the vehicle moved [LW 72]	No [LW 72]	She does not remember whether she looked at the shifter or the instrument cluster to see what gear the shifter was in before taking her foot off the brake [LW 75-76]
Yacoub, Wisam	1	After August 2015, or beginning of 2016 [49, 107]	--	His garage [WY 47]	He pulled into the garage and put the car in Park. His wife and kids got out. He shut the car off and opened the door and popped the trunk. His wife was taking out the groceries and the kids went to the back [of the vehicle] to get their stuff. He was helping unload. The car rolled back His wife pushed the kids out of the way "because he got hit," and the car bumped the deponent on his hip. [WY 47] Hen the went and hit the brakes [WY 47-48] In that garage incident, he pulled into the garage, pushed the brakes, put the car in Park, shut the AC off, and turned the car off. His wife got out and opened the door for the kids. He opened his door and popped the trunk open. He walked toward the back and the car rolled back. When he put the car in Park, he pushed the brake and "pushed it all the way." Then he shut the vehicle off by pushing the button [WY 108]	Wife and kids were outside the vehicle [WY 47]	Pushed [the shifter] all the way [WY 108]
	others	--	--	--	Many issues with vehicle, including transmission "jumping gears" and switching from Drive to Neutral [WY 76-77]	--	--
Youngstrom, Scott Michael	N/A	--	--		Once the accident happened with the actor, he raised a concern about the shifter to the dealer [SY 221] He is not currently experiencing any problems with his Charger [SY 279] He never had a problem with his vehicle where it moved while it was in park, where he thought he had gotten the vehicle into park but it moved or where he was unable to tell what gear it was in [SY 316]	--	--



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Plaintiff	Incident Number	Vehicle On/Off	Emergency Brake On/Off	Seatbelt On/Off	Warning Chime	Injury/Damage to Vehicle or Property	Pre- or Post-Recall Remedy
Wells, Lindsey	1	On [LW 67]	She does not have a habit of using her parking brake [LW 67]	--	--	No [LW 69]	She clarifies that she had rollaway incidents before and after she received the recall letter [LW 115-116]
	2	On [LW 70]	Off [LW 71]	--	--	No [LW 70-71]	She clarifies that she had rollaway incidents before and after she received the recall letter [LW 115-116]
	3	On [LW 72]	Off [LW 72]	--	--	No [LW 72]	She clarifies that she had rollaway incidents before and after she received the recall letter [LW 115-116]
Yacoub, Wisam	1	Off [WY 108]	Off [WY 109]	Off, outside of vehicle [WY 108]	--	His son Joseph was hit but not really injured [WY 110] Car brushed the deponent when he got back into it [WY110]	--
	others	--	--	--	--	--	--
Youngstrom, Scott Michael	N/A	--	--	--	--	--	--

## **Appendix D**

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### **Plaintiff Parking Behavior**

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Plaintiff	Parking Behavior		
	General Park Verification	General Use of E-Brake	Comments about Auto Park
<b>Andollo, Justine</b>	Generally not part of her routine to look at shifter to verify if in park unless she's in her garage and can see it; she would feel based on motion if she were in park [JA 134, 135, 136, 208]	Uses post-recall remedy, but not before [JA 17-18, 130, 135, 136, 137, 216]	Doesn't know what auto park is [JA 47] She was at a stoplight and she went to open the door for something, and she had let her foot off the brake, and the car still rolled forward; it should have thrown it into park [JA 137-138], she was told if she let her foot off the brake and opened the door that the car would automatically engage park [JA 237], vehicle should have had auto park from the beginning [JA 299]
<b>Berken, Corinn</b>	Regarding if it's her routine practice to check both the dashboard and gearshift to see which gear she's in, she typically checks one. She can't recall if they've ever been different [CB 30-31]	It is her practice since the incident to put on the emergency brake [CB 31]	She agrees that the recall would add an auto park feature which eliminates the possibility of the driver inadvertently failing to place the transmission into park prior to exiting the vehicle. She chose not to take her vehicle in to have this recall performed because now she takes necessary steps to make sure that she doesn't exit the vehicle, and does not release the brake until the car is turned off so she knows it's in Park [CB 196]
<b>Bernal, Eliam &lt;goes by Marrero Bernal</b>	He says he you put it in park "just like you regularly do" by applying the brake and putting the shifter in Park. He does not recall needing to push a button to move the shifter. A backwards motion of his hand to change to park [EMB 81] He looks for the gear indicator on the shift level but not the Driver Information Display [EMB 144]	He never uses the parking brake [EMB 108]	He does not know what an Auto Park feature is [EMB 44] No one explained the Auto Park feature to him after it was installed [EMB 187-188] He was not aware prior to December 2016 that Auto Park was installed on his vehicle [EMB 188] He never used Auto Park [189] He also says he understands what Auto Park is [EMB 199]
<b>Brooks, Taylor</b>	Pushes the brake, presses the button and pushes shifter all the way forward until the shifter screen hits P [TB 74-75, 100, 112] Looks at both the shifter and the dash screen; has always done this [TB 75, 99-100, 115]	Always uses parking brake when parking since his incident; did not use it before [TB 74, 75, 98-99, 101-102, 115-116, 160-161]	Did not receive instructions on auto park and nobody explained it to him post-remedy; knows nothing about the feature [TB 123] Has had no rollaways or problems with the shifter since it was installed [TB 123-124]
<b>Colrick, Clare</b>	Pushes the shifter all the way forward [CC 43]	Now uses parking brake since incidents, but didn't used to [CC 28-29, 45-46, 117-118]. She used the parking brake on an incline [CC 29, 117]	Hasn't experienced the auto park feature [CC 111]
<b>Craig, Cris-Ann</b>	She would always make sure it was in Park before she turned the vehicle off. Because often she thought it was in Park, and it wasn't. So she double-checked it all the time by looking. She looked at the P on the shifter. [CC 57-58], She used both the dashboard and the shifter itself to confirm what gear the vehicle was in; she is not aware of using one cue more than the other. [CC 58]	For Chevy Tahoe, never used parking brake [CC 24]	She was not aware of auto park when she purchased the 2014 Jeep Grand Cherokee. She doesn't know what auto-park is. Auto park was not a factor in her decision to purchase the 2014 Jeep Grand Cherokee. [CC 45-46] She wishes she never had the recall performed on her vehicle, because it caused more problems. Ever since she had it fixed, her driver door would short out whenever she tried to "do the automatic door." [CC 77-78]
<b>Dial, Krystal</b>	Moves gearshift all the way up until it stops, look for the P on the gearshift and on the dash, release her foot from the brake, and make sure it's not rolling; did not do this when she first got the car [KD 9, 88, 130-131, 165] When she first got the car, she just assumed it was in park when she put it in park [KD 131]	Only uses when on an incline, including parking in driveway [KD 10, 87, 113, 118]	Doesn't know what auto park is [KD 132] Never owned a vehicle with autopark before [KD 132] Doesn't think auto park fixed the problem because she doesn't have to have the door open to put it in park [KD 27] Her usage of the vehicle hasn't changed as a result of having auto park [KD 154, 203]
<b>Felker, Debra</b>	Did not have a routine to make sure she was in park prior to rollaway; after first incident, would check both indicator lights to make sure [DF 114-115]	Never used because she lives in a flat area [DF 167] Uses when she is parked on an incline [DF 116]	Doesn't know what auto park is [DF 182] No discussion at dealership [DF 202, 203-204]
<b>Fisher, Todd</b>	Parking routine oncsists of lining up on ball (in garage), foot on brake, put in Park, make sure it's in Park, shut vehicle off [TF 107] Checks indicator lights on dash and console, doesn't always look [TF 108, 115-116] Always did a visual check [TF 163]	Practice is "50/50" depending on terrain (only on incline) [TF 9] Does not recall setting parking brake when leaving vehicle while it's running [TF 106]	Understands auto park was part of recall, that it goes to Park automatically if you open the door and it's not in the proper gear; was unaware of auto park at time of purchase; has never sold a vehicle with auto park or purchased such a vehicle through work [TF 49] Did not consider auto park when purchasing Jeep [TF 49-50]
<b>Foreman, Kelli</b>	She always moves it forward twice to verify that it is in park; looks at the gearshift to see that it has "P" showing when putting it in Park; Doesn't look at the driver information display to verify that it is in Park [KF 7-8] When the vehicle does not shut off, she does not look at the gearshift to see what it displays but instead pushes it forward again to put it in park; she looks at the gearshift the second time to verify that it is in park [KF 18-19] does not rely on the driver display but instead normally looks at the gearshift to see if the vehicle is in park [KF 20-21]	Does not use the parking brake when parked with the vehicle off [KF 104] Her routine for parking the vehicle is to "double put it in park" by moving the gearshift forward twice; if she's on a flat surface she does not use the parking brake but if the vehicle is running and on an incline then she will use the parking brake [KF 25-26, 104-105, 130-131]	Her vehicle does not have an auto park feature [KF 36-37] She didn't know what an auto park feature was at the time she purchased the vehicle [KF 234-235]. She didn't know that FCA would install an auto park feature on her vehicle [KF 234-235] She does not know if someone who has had the auto park feature installed has had the same problems with the gearshift as her [KF 245-246] She does not know anything about the experiences drivers have had after they've had the auto park feature installed [KF 248]
<b>Gillispie, Ashley</b>	After shifting in Park, she visually confirms that the vehicle is in Park. Looking at her dash, she can tell that it's in Park [AG 95]	Never used it before accident [AG 30, 36, 97, 134-135]	Doesn't know what Auto Park is [AG 68-69] Wasn't aware S27 is designed to put Auto Park in her vehicle [AG 123]

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Plaintiff	Parking Behavior		
	General Park Verification	General Use of E-Brake	Comments about Auto Park
Goldsmith, David	--	<p>Didn't always set the parking brake in the VW and Nissan [DG 27]</p> <p>Didn't change his parking brake habits after August 24th incident [DG 91]</p> <p>Will continue his standard practice of not using the parking brake when in the grate or on flat ground [DG 134]</p> <p>Doesn't know whether he will use parking brake when stopping at a mailbox with the vehicle running [DG 135]</p>	<p>Was not aware of Auto Park when he purchased the vehicle [DG 179]</p> <p>He states that after the recall, whenever the door is opened and the engine is running, that no matter what gear it is in, it drops back to park. This is awkward because it is unintuitive and is unlike any car that he has ever driven On a scale of 1-10, 1 being not liking it, he'd rate it a 1 [DG 106]</p> <p>Inconvenienced by auto park a couple times per month [DG 107]</p> <p>Doesn't consider Auto Park a feature, but a hindrance [DG 108]</p> <p>Preferred how vehicle operated before the Auto Park feature was added [DG 109]</p>
Gunnells, Jacob	<p>When he wants to visually confirm which gear he's in, he generally uses the dashboard since when he is shifting his hand is covering the light on the electronic shifter [JG 47, 96]</p>	<p>He does not use his parking brake every time he shifts into Park and shuts the vehicle off [JG 85]</p> <p>Uses it on hills and inclines [JG 95]</p>	<p>Had never heard of Auto Park when he purchased the 2014 Jeep [JG 58]</p> <p>First learned about Auto Park as part of the recall [JG 58]</p> <p>Not a feature he considered in how much he would be willing to pay for the vehicle [JG 59]</p>
Guy, Jeffrey	<p>Generally he verified by checking instrument panel or lighted up button or letters [JG 15]. He implemented diligence in how he operated vehicle to avoid incidents [JG 126-127], he had a mental step process of stop, move, look, proceed [JG 127]</p>	<p>Generally he would engage the parking brake when he would put the vehicle in park [JG 15]</p>	<p>He can no longer fine-tune parking movements while driver door open [JG 129]</p>
Hackett, Danielle	<p>Regarding whether it was her habit or practice to use the dashboard to confirm her gear, only when something would arise that would make her think that the gear she's in, doesn't feel right or if there's an issue. [DH 87-88], she doesn't always check whether the vehicle is in park by looking at the shifter, or at the dashboard [DH 117]</p>	<p>When she drives she sometimes uses the parking brake. She knows how to use a parking brake. Every time she drives and parks she does not use a parking brake [DH 116]</p>	<p>A vehicle forcing itself into park would not make sense to her. She doesn't agree with that. She doesn't agree with that in a vehicle [DH 152-153], just in general, you can't back up to a trailer properly with the door closed. Most people open the door and look out as they are backing up to get into any tight situation She doesn't think prior to the recall she opened her door and had the vehicle in reverse on any occasion. She has not used the vehicle to tow anything [DH 153]</p>
Hackett, Joby	<p>He does not normally check the dashboard to see whether the vehicle is in park [JH 25, 137]</p>	<p>He does not normally use the parking brake [JH 25, 139]</p>	<p>Confirms he has stated that he wasn't happy with the recall fix. They normally back up to a piece of equipment and you always have your driver's door open to get out to see where you're at. This would make them unable to do this completely. Backing the vehicle with the door open is not something he does with the vehicle. There is nothing he dislikes about the recall as it applies to this vehicle. [JH 204-205]. He assumes it does resolve rollaway concerns with this vehicle [JH 206]. Confirms the auto park feature would have prevented this incident from occurring [JH 238]</p>
Hartt, Bernadine	<p>When she pushes the shifter up to Park, the P appears on the shifter, or she doesn't recall or doesn't notice that [BH 52]</p> <p>Checks the shifter to see what gear is displayed quite often, but not every time she puts the car in park [BH 55, 264]</p> <p>After first incident, made sure she pushed it all the way into Park, by putting her foot on the brake, and pushing it up to the P and making sure the P lights up [BH 62]</p>	<p>Only uses parking brake on previous vehicle when on an incline [118]</p> <p>Does not use parking brake when she parks her vehicle unless on an incline [180-182; 186]</p>	<p>She believes her vehicle was defective when she bought it because it didn't have a feature that would automatically put the car in Park if you tried to get out of the car and it wasn't in Park. Does not know if she had vehicles with that feature before this one [BH 75-76]</p> <p>She has not tested the auto-park feature [BH 259-260]</p>
Havnen, Pamela	<p>Does not look at the gear illuminated on the shifter every time [PH 62]</p> <p>Regarding whether she follows the instruction to check that the car is in park by trying to move the transmission gear out of park with the brake pedal released, she would say no. She sometimes makes sure that the transmission is in park before exiting the vehicle. She doesn't always look at the park [PH 145]</p>	<p>She does not use the parking brake when she parks in the garage [PH 61]</p> <p>Does not normally use the parking brake when it's parked in her driveway [PH 62]</p> <p>Does not use the parking brake if she's not on an incline [PH 95, 141, 147]</p> <p>In everyday occurrences, she does not use the parking brake when parking her vehicle [PH 131]</p>	<p>Was not aware of auto park feature when she purchased vehicle [PH 86]</p> <p>The way she understands it is that when the shifter is in reverse and the driver door is open it will throw it into park [PH 130]</p>
Hughes, Marc	<p>When he is in park a "P" is displayed on the dashboard [MH 19]</p> <p>Has his foot on the brake, pushes the button to disengage the gear it is in, pushed the knob forward and it would go through neutral and reverse into park [MH 24]</p> <p>Routine is to look at the dashboard, not the shifter, to see what gear it is in [MH 25]</p> <p>There are times, not very often, when he does not look anywhere to verify that it is in park [MH 26]</p>	<p>Never uses the parking brake when he parks, has used it on an incline [MH 26-27, 127]</p>	<p>Car did not have a feature that would automatically put it in park if he tried to get out of the vehicle and it was not in park [MH 20]</p>
Hyatt, Robert	<p>Puts the vehicle into park by moving the shifter into the "P" position [RH 113]</p> <p>Visually confirms the gear using the shifter illuminated notation of PRND [RH 114]</p>	<p>Only uses parking brake on incline or decline [RH 22, 91-92, 120]</p>	<p>Understanding of autopark is that it would automatically park when it is in the park position [RH 91]</p>
Lynd, John	<p>Does not look for indications the vehicle is in park all the time, takes the feeling that he just put the shifter into park as an indication that it is parked [JL 106-107]</p> <p>Puts his foot on the brake, grabs the shifter handle, pushes it forward into park. [JL 107-108]</p> <p>Looks at light on shifter rather than dashboard to determine if vehicle is in park [JL 107-108]</p>	<p>Used parking brake very infrequently, only when he was on a hill [JL 26-27, 109-111]</p>	<p>Post-recall, he did not know what to expect. He was backing up in his driveway and opened the door to reach for the Sunday paper, and almost put his head through the windshield because it automatically went into park [JL 103-104]</p> <p>Post recall, if he opens the door and it's supposed to be in gear it automatically goes into park [JL 149]</p> <p>Never got a demonstration of how auto park was to work [JL 222-223]</p> <p>Was not his understanding that vehicle had auto park when he purchased it [JL 255]</p>

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Plaintiff	Parking Behavior		
	General Park Verification	General Use of E-Brake	Comments about Auto Park
<b>Machtley, Todd</b>	When parking, looks at shifter, puts his hand on it, hits the button, and moves it up to Park. Once in Park, he would hit the ignition switch [TM 77] Prior to incidents, it was not his habit to look for Park indicator lights [TM 109-110] if his newborn daughter would be in the back screaming, he would not look much at the shifter to see if its in Park [TM 77-78]	Used the parking brake once or twice since owning the vehicle, only when parking on a very steep incline [TM 78]	Did not know vehicle would not automatically put itself into Park when he purchased it [TM 52] Was not aware of Auto Park feature [TM 53] Does not know what Auto Park is [TM 127] After he received recall remedy, member of service department told him if the door is open with the vehicle going less than 1.2 mph the vehicle will automatically go to Park [TM 145]
<b>Mack, Janella</b>	Mainly looks at the gear shifter to figure out what gear it is in, but can see the display [JM 88]	Prior to incident, would use the parking brake when on a hill, but not other times [JM 84] Does not use the parking brake when driving other vehicles [JM 84] Prior to April 2016 did not use the parking brake when not in the vehicle [JM 118, 123]	When purchasing the vehicle, she did not believe that it could place itself into Park on its own [JM 69] Understanding of auto park feature is that it places your vehicle into Park automatically if you take your foot off the gas, remove your seatbelt, and turn the car off when not in Park [JM 158]
<b>Magnuson, Ann</b>	Since the defect, is careful to look at the console and the shifter to verify the "P" is there. Prior to the defect she did not look [AM 82] Does not look for visual indication that other vehicles are in park because she can feel it go into gear [AM 84]	She does not use the parking brake if there is not a hill, always uses the parking brake if there is a hill [AM 18, 83, 110] Does not use parking brake in her garage [AM 83]	Since the visit with the dealership to have the recall, the car automatically goes into park when the driver side door is opened. [AM 17] At the time she purchased the vehicle she did not know if it would not automatically put itself in park [AM 63-64] Does not know what Auto Park is and does not think her vehicle had it at the time of purchase [AM 133] Auto Park did not fix the problem she's having with the shifter [AM 154]
<b>Marble, Trevor</b>	Looks at the light on the console or on the shifter [TM 52, 83] He checks for the lights or indicators most of the time [TM 52] Started to look for light or console indicator after the first roll away [TM 83-84] Does not always check for Park indicator [TM 85, 154]	Does not use the parking brake generally, does use if he's on an incline [TM 58, 111-112] Does not use parking brake in garage or driveway [TM 80]	Does not know what an auto park feature is [TM 23] Does not know if auto park works in his vehicle [TM 97]
<b>McDonald, Kean</b>	Prior to incident, was not his practice to always look at the dash display to see if P is illuminated [KM 16] Sometimes he would look at PRND on top of shifter [KM 16-17]	Only used if on a hill [KM 68, 73]	--
<b>Metzger, John</b>	--	Now uses the parking brake since wife's incident; hasn't used it with a vehicle before unless on an incline [JM 32, 51-52]	--
<b>Metzger, Mary</b>	Can tell what gear she is in because it illuminates on gearshift and dashboard [MM 11, 15-17] Relies more on shifter than dashboard [MM 24-25] Does not know if she specifically notices the position indicator every time she parks [MM 149-151] Checks the P on the indicator as a habitual thing [MM 210-212]	Did not apply parking brake before incident, but now uses it on flat ground or on an incline [MM 17, 142-143, 225]	Does not know how auto park works [MM 204, 242]
<b>Nathan, Michael Vincent</b>	Looks down. Believes that there is a gear indicator display on the dashboard but he is "not sure if it is always there or if you have to choose it" [MN 92-93]	Routine for parking included pressing the brake, engaging the parking brake, and putting the vehicle in Park [MN 135]	Didn't think his Jeep had Auto Park at time of purchase [MN 97-98]
<b>Perkins, Casey</b>	Puts his foot on the brake, puts his hand on the shifter, pushed the button in, moved the shifter fully forward to the point it won't go further, released the button and then let go of the shifter. Looked at the shifter to see it indicated "P". [CP 29-30] Has not had a situation in which he saw "P" indicated on dashboard or shifter and had his vehicle move or rollaway [CP 26, 30, 117]	Does not routinely use his parking brake [CP 30-31, 161-162] "Absolutely" uses it when he is on a steep incline or decline [CP 30-31]	Does not recall receiving document describing auto park feature [CP 250-251]
<b>Phelps, Cameron</b>	Every time he puts the vehicle in Park, he looks at the shifter to make sure the Park emblem is illuminated and also looks at the indicator on the dashboard [CP 10, 134-135] Parks, unbuckles his seatbelt, and exits the vehicle. Since the incident, 'kind of' checks the dashboard and shifter [CP 102-103]	Uses it when necessary, such as when towing a trailer or parking on a hill Does not use parking brake at home on inclined driveway because it is very slight [CP 101-102]; Does not always apply parking brake [CP 121-125]	Not intuitive [CP 60-61] Does not think the Auto Park feature works [CP 155-156]
<b>Schultz, Charles</b>	Checks to make sure transmission is in Park [CS 11]; always his practice to look at the P indicator on the electronic vehicle information center and shifter knob [CS 187-188, 213-214]	when he parks on level ground he does not usually apply the parking brake "since it's an automatic transmission" [CS 11]; sometimes applied the emergency brake [CS 99-100]; would not apply parking brake [CS 187-188, 213-214]; uses it when he feels he needs to [CS 100-102]; would occasionally use parking brake after receiving the notice [CS 187-188]	Had not heard of Auto Park prior to receiving recall notice or deposition [CS 194, 204]
<b>Scott, Melvin</b>	--	it's not his habit to use the parking brake, "It's not common practice to have to engage a parking brake in a vehicle, unless you're on a hill or incline or a decline [MS 27, 129, 154];	Likes the Auto Park feature [MS 51]

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Plaintiff	Parking Behavior		
	General Park Verification	General Use of E-Brake	Comments about Auto Park
<b>Stedman, Karen</b>	Confirms on dashboard and sets parking brake [KS 8] Was more cautious before recall remedy, triple checking what gear it was in [KS 72-74]	Uses parking brake when parking and used in prior vehicles [KS 8-9, 32-33, 76, 77]	Understands function of it [KS 32-33] Does not have to be as concerned when exiting vehicle since having the recall remedy [KS 72-74]
<b>Stewart, Dustin</b>	When he wants to verify what gear his vehicle is in, he looks at the dashboard, and does not usually also look at the shifter. He relies more on the dashboard to indicate which gear he is in. Regarding how he personally puts the vehicle in park, he applies the brakes, and he moves the gear shifter all the way forward. He sometimes looks at the dashboard to ensure that the vehicle is in park [DS 61] He does not look at the shifter itself [to ensure that the vehicle is in park] [DS 62] Taking his foot off the brake is usually a good indicator to ensure park [DS 62]	It is generally not his routine practice to use the parking brake on the 2014 Jeep Grand Cherokee [DS 44]	He became familiar with Auto Park after the recall [DS 65] He has tested whether Auto Park works on the same day the recall repair was done [DS 132, 133] He believes the recall dealt with the issue he was having [DS 133]
<b>Vosburgh, Bruce</b>	Did not have routine for parking. Easy to take into park because you just push it straight up. Does not think he had any problems achieving park. He did not do anything to verify the vehicle was in park, just got out of the car [BV 81]	He does not always apply parking brake; only on an incline [BV 80, 93-94]	Was not aware of Auto Park feature at purchase [BV 64] Did not discuss Auto Park feature with dealership [BV 133] Was not aware Auto Park feature was installed [BV 134] Does not know if Auto Park has engaged in his experience [BV 141]
<b>Waggoner, Jay</b>	When using the 2012 Chrysler 300, he used the console and dashboard indicator to determine the gear he was in [JW 29]	Used parking brake periodically on Challenger if parked on a hill [JW 25]	He does not know what Auto Park is [JW 58]
<b>Webster, Cameron</b>	Does not drive 2014 Jeep enough to have a parking routine [CW 79] After 1st incident, tried to be extra careful, double-triple check it's in Park [CW 91]	Does not routinely use parking brake on level ground [CW 79] He now engages parking brake regularly due to wife's reminders. She reminds him to use parking brake as an extra safety feature [CW 81]	Understands auto park remedy some, still confusing [CW 128] Auto park engaged while in garage. May have been rolling 1.5 mph. Might have gotten out and hadn't had park all the way engaged [CW 166] Even if he had gotten auto park to work, still would have been dissatisfied with this solution [CW 171]
<b>Wells, Lindsey</b>	--	She does not have a habit of using the parking brake [LW 67]	She understands that the term auto park means that the car will automatically stop if it feels that the car is not in park, and the door has been opened. She does not know whether there are any specific events that need to occur before that feature will engage. [LW 116-117] She believes that by having a recall and having the auto park feature on there – that leads her to believe that there could have been an extra safety measure installed in the car before she purchased it [LW 142]
<b>Yacoub, Wisam</b>	--	After incident, sometimes uses parking brake in his driveway [WY 113]	He has never heard of auto park, or believes it means a vehicle can park itself [WY 37]
<b>Youngstrom, Scott Michael</b>	At airport, on the way to the depo, he checked the dash board, but not the shifter, after putting the car in park to verify that it was indeed in park [SY 25]	He does not always apply the parking brake. [SY 194] Uses the e-brake whenever he is on an incline [SY301]	His understanding of auto park is that if you get out when the vehicle is not in park it will go into park automatically [SY 267-268]

## **Appendix E**

### **Plaintiff Personal Background**

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Plaintiff Testimony Summary  
Appendix E

Plaintiff	Personal Background Information				
	DOB	Age at Deposition	Driving Since	Highest Education Level	Occupation
Andollo, Justine	2/12/1970 [JA 9]	47 [JA 9]	Age 16 [JA 26]	Associate's degree in physical therapy and two years of business [JA 19]	Self-employed, her and husband own Andollo Contracting Services [JA 20], does billing and marketing materials [JA 23]
Berken, Corinn	10/11/71 [CB 8]	46 [CB 8]	Licensed since age of 20 (26 years) [CB 47]	high school graduate [CB 40]	customer service associate for JNBA financial advisors [CB 49]
Bernal, Eliam <-goes by Marrero Bernal	9/25/1975 [EMB 6]	42 [EMB 6]	2010 [approx. age 35] after emigrating from Cuba [EMB 16-17]	Two two-year degrees from the American College of Financial Services, LUTCF (Life Underwriter Training Council Fellow) and FSCP (Financial Service Consultant professional) [EMB 8-9]	Insurance agent/representative for Farmers Insurance, Farmers Financial Solutions [EMB 8-9]
Brooks, Taylor	09/06/1993 [TB 6]	23 [TB 6]	16 [TB 15, 72-73]	High school education and three years of college, currently in college [TB 9]	Works for All American Scaffolding and Realty Executives and the United States Navy [TB 12], also as an independent agent for realty company [TB 12]
Colrick, Clare	03/19/1949 [CC 7]	69 [CC 7]	--	B.A. in political science & history [CC 24]	Was pilot, was high school teacher, currently retired [CC 27-29]
Craig, Cris-Ann	8/10/1965 [CC 6]	52, going on 53 [CC 6]	--	bachelor's degree in nursing, did not complete master's [CAC 14]	Full-time registered nurse [CAC 17-18]
Dial, Krystal	01/17/1980 [KD 6]	37 [KD 6]	1996 [KD 17]	High school graduate [KD 11]	Medical billing and payment posting [KD 12]
Felker, Debra	05/29/1965 [DF 7]	52 [DF 7]	16 [DF 18]	Two-year associate's degree [DF 9]	Used to work in titling and billing at car dealerships [DF 10], Currently supervised parenting time coach for Hilltop Community Resources, coaches parents [DF 11]
Fisher, Todd	05/08/68 [TF 6]	49 [TF 6]	16 [TF 22-23]	Some community college [TF 10]	Has worked at dealerships as a salesperson/management [TF 10], currently director of fleet operations at Omega Moran, an industrial company [TF 14]
Foreman, Kelli	05/16/80 [KF 5]	37 [KF 5]	16 [KF 13]	Bachelor's degree in criminal justic, master's in counseling [KF 9]	Community supervisions officer for Harris County Probation [KF 10]
Gillispie, Ashley	09/01/85 [AG 7]	32 [AG 7]	16 [AG 20]	Trade school, cosmetology license [AG 17-18]	Hairdresser at hair salon [AG 17]



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Plaintiff	Personal Background Information				
	DOB	Age at Deposition	Driving Since	Highest Education Level	Occupation
Goldsmith, David	10/4/66 [DG 8]	51 [DG 8]	15 [DG 26]	Took a year of community college [GD 58], University of Phoenix Microsoft Certification [GD 59]	Currently Chief Technology Officer for Hanford Elementary School District [GD 50], before working in schools was a mechanical contractor [GD 53]
Gunnells, Jacob	05/18/84 [JG 5]	34 [JG 5]	High School [JG 17-18]	Undergraduate degree from NC State in business management with finance concentration [JG 13]	Accountant [JG 14]
Guy, Jeffrey	11/20/1974 [JG 6]	43 [JG 6]	Has had a driver's license since old enough to drive [JG 25]	Two years at University of Phoenix, did not finish [JG 20-21]	Currently clinical analyst for CVS health [JG 21], once worked for a car dealership [JG 23]
Hackett, Danielle	11/8/1979 [DH 6]	38 [DH 7]	She was 18 when she received her license in Pennsylvania [JH 35]	Master's degree in special education [DH 18]	Works for husband's business, Hackett's Tree Service [DH 19]
Hackett, Joby	11/3/1975 [JH 6]	--	Has had driver's license since 16, has had CDL for two months [JH 41]	High school graduate [JH 39]	Self-employed, at Hackett's Tree Service [JH 54]
Hartt, Bernadine	9/18/50 [9]	68	Has had a driver's license for around 41 years [87]	Attended college for a certificate course in retail merchandise [BH 85]	Currently not employed, was most recently a receptionist [BH 99-100]
Havnen, Pamela	5/4/1957 [PH 8]	61 [PH 8]	Since she was 16 [PH 22]	Has GED, took some college classes, no degree [PH 20-21]	Currently retired, worked with UPS as a lead at a UPS billing site [PH 25]
Hughes, Marc	10/31/1967 [MH 8]	50 [MH 8]	Since 1983 [MH 42]	Bachelor's degree in business [MH 35]	Buyer for L.B. White, a manufacturer of agricultural and construction heaters [MH 47-48]
Hyatt, Robert	2/5/1976 [RH 8]	42 [RH 8]	Started driving around 18 years old [RH 22]	Bachelor's degree in liberal arts [RH 14-15]	Currently stay at home father [RH 15], prior to that was management for restaurant chain [RH 15]
Lynd, John	7/1/1963 [JL 6]	54 [JL 6]	Since he was 17 [JL 11-12]	Bachelor's and associate's degrees [JL 8]	Works in sales for phone company in sales management, sales control, sales marketing [JL 9]
Machtley, Todd	5/15/1981 [TM 6]	36 [TM 6]	--	Bachelor's degree in communications [TM 10]	Currently works for insurance carrier as special investigator [TM 10]
Mack, Janella	8/2/1988 [JM 6]	29 [JM 6]	Age 16 [JM 15]	John Jay College of Criminal Justice, but didn't finish degree [JM 9]	Currently a corrections officer for the NYC Dept of Corrections [JM 11]
Magnuson, Ann	12/9/1932 [AM 6]	84 [AM 6]	Before 1966 [AM 17-18]	Bachelor's and master's in liberal arts [AM 8]	Currently retired, but worked as a business director for a hobby craft company [AM 8]

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Plaintiff	Personal Background Information				
	DOB	Age at Deposition	Driving Since	Highest Education Level	Occupation
Marble, Trevor	9/12/1981 [TM 6]	36 [TM 6]	Licensed since he was 16 [TM 81]	Undergraduate degree in finance, Masters of Business [TM 9]	Currently Director of Finance at CCI Network Services [MT 10]
McDonald, Kean	11/28/1979 [KM 6]	38 [KM 6]	--	Computer science undergraduate, MBA [KM 28]	VP of bank, Northern Trust [MK 32]
Metzger, John	10/11/1952 [JM 7]	65 [JM 7]	--	--	Attorney [JM 13]
Metzger, Mary	12/24/1958 [MM 8]	59 [MM 8]	Age 16 [MM 32]	Two-year business school degree [MM 30-31]	Legal assistant for husband's law firm [MM 35-36]
Nathan, Michael Vincent	05/27/88 [MN 10]	28 [MN 10]	Licensed since 16 [MN 20]	High school diploma [MN 13]	Self-employed, replaces decals and molding on cars [MN 14]
Perkins, Casey	03/09/58 [CP 9]	60 [CP 9]	--	Associate's degree [CP 48-49]	Currently retired but worked for BNSF Railroad as freight conductor [CP 56-57]
Phelps, Cameron	07/20/93 [CP 6]	24 [CP 6]	Licensed since age of 16 [CP 20-21]	Bachelor's in business [CP 10-11]	Currently loan officer [CP 12]
Schultz, Charles	02/27/58 [CS 7]	59 [CS 7]	over 40 years [CS 17]	12th grade education, some college (one year) [CS 12]	Currently retired, but before that was elevator mechanic [CS 12]
Scott, Melvin	07/10/73 [MS 8-9]	44 [MS 8-9]	16 [MS 39]	College degree [MS 16-17]	Systems analyst for Trinity Health [MS 16]
Stedman, Karen	1/10/1970 [KS 6]	48 [KS 6]	1986 [KS 15]	Bachelor's degree in marketing [KS 9]	Currently trade show and events manager for Fujifilm SonoSite [KS 10]
Stewart, Dustin	April 22, 1988 [DS 7]	30 [DS 7]	Age of 16, or about 14 years [DS 25, 26]	High school graduate [DS 14]	Works for contractor, Taylor Made Construction [DS 16]
Vosburgh, Bruce	3/27/1954 [BV 6]	63 [BV 6]	Age of 16, or about 1968, 1970 [BV 14]	Undergraduate degree, masters equivalency in credits [BV 9]	Retired, but works part-time as director of school program [BV 11]
Waggoner, Jay	January 13, 1958 [JW 5]	60 [JW 5]	CDL since 2002 [JW 15]	Took some college courses, no degree [JW 14-15]	Currently is disabled and receives social security benefits, but used to own a construction company [JW 16-17]
Webster, Cameron	July 10, 1957 [CW 5]	60 [CW 5]	Age 18 [CW 76]	Associate's degree in criminal justice [CW 10]	Currently is investigator for federal government and for firm [CW 11]
Wells, Lindsey	October 31, 1980 [LW 8-9]	37 [LW 8-9]	--	Bachelor's of science in radio, tv, and film [LW 21]	Currently vice president of Fenceworks [LW 19-20]

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Personal Background Information					
Plaintiff	DOB	Age at Deposition	Driving Since	Highest Education Level	Occupation
Yacoub, Wisam	7/1/1978 [WY 7]	39 [WY 7]	--	HVAC certificate from technical college, some college classes [WY 14-15]	Owns an HVAC business [WY 15-16]
Youngstrom, Scott Michael	6/24/1981 [SY 8]	36 [SY 8]	Since age 17 [SY 32]	Bachelor's in english, currently pursuing MS in government analytics [MY 30]	Currently healthcare data analyst [MY 37-38]

## **Appendix F**

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### **Plaintiff Recall Remedy**

Guy v FCA  
Plaintiff Testimony Summary  
Appendix F

Plaintiff	Prior Experience with Recalls	Contacted FCA?	Contacted NHTSA?	Recall Notice Date	Remedy Date	Disclosure Wishes
Andollo, Justine	Never owned or leased a vehicle that had a recall [JA 117-118] Doesn't think she's ever looked up recall history for any vehicle she's purchased [JA 277] Is not sure of any instances where she learned something about a vehicle's recall history and paid less for it [JA 278]	Yes, March 2016 [JA 34, 35-36, 36-37, 153, 154, 197]	Yes; May 2016 [JA 35-36, 37, 63-65, 157, 165-166]	Spring 2016 [JA 200]	September 8th, 2016 [JA 251, 263-264]	Issue/problems with monostable gearshift [JA 103, 104] Putting this in manual would not have been sufficient; salesperson at dealership could have said there was a problem [JA 311-312] Could have been a recall sooner if issues were known [JA 311-312, 313]
Berken, Corinn	She doesn't recall the Cavalier having any recalls on it while she owned it [CB 67] She doesn't recall any recalls on the Prism. She may have had repairs done on it [CB 70] She doesn't recall if there were any recalls on the Explorer while she had it [CB 75] She doesn't recall doing any research as to whether any of those vehicles had had recalls on them before she got any of the dealer demos [CB 83] When she bought the F-150, she knew there was a possibility that there could be a recall while she owned it, but she doesn't remember any recalls [CB 95] She doesn't remember if there were any recalls on the Honda Civic while she owned it [CB 101] She doesn't remember any recalls on her second Honda Civic while she leased it [CB 105]	Yes, on June 10th, 2016 [CB 189]	No, she doesn't know what NHTSA is. She doesn't believe she's ever reported anything pertaining to NHTSA or any other governmental agency. She doesn't believe her son has [CB 277]	She thinks she received the letter after she joined the lawsuit. She doesn't believe she received the letter twice. She received the letter after she had the rollaway accident in June, July, August, or September [CB 169]	The vehicle hasn't received the recall remedy to her knowledge. At the time she responded to the interrogatory, she didn't know if it had been done [CB 273] She chose not to take her vehicle in to have this recall performed because now she takes necessary steps to make sure that she doesn't exit the vehicle, and does not release the brake until the car is turned off so she knows it's in Park [CB 196]	She believes all the materials reviewed today including that the electronic shifter works differently were disclosed to her son in the materials that came with the vehicle [CB 218-219] She thinks the general public should be made aware that there's a safety issue [CB 45]
Bernal, Eliam <goes by Marrero Bernal	He remembers receiving update letters for his 2013 Altima and bringing the car in for service, but he did not read the fine print [EMB 42]	He did not contact FCA about the shifter [EMB 27]	--	--	September 9, 2016 [EMB 180]	Auto Park should have been installed at time of purchase [EMB 237], but maybe not asked directly what he wanted to be told at purchase.
Brooks, Taylor	Did not look to see if any recalls before purchase [TB 52] Doesn't know if any recall impacts the value of a vehicle [TB 129]	No; he was told to contact FCA but did not [TB 90-91]	--	--	July 22, 2016 [TB 187] Was initially told after his rollaway that his vehicle already had the remedy [TB 87-88]	FCA should have disclosed that the gear shifter doesn't put the vehicles in park when you think they are [TB 167]
Colrick, Clare	--	--	No [CC 13]	--	May have not had remedy done, doesn't have paperwork [CC 126]	If they had told her shifter was defective, she would not have bought the vehicle [CC 59, 112]
Craig, Cris-Ann	Her Dodge Truck has had very few recalls [CC 28]	She never reported concerns with gearshifter to FCA [CC 35]	She never reported her concerns to NHTSA [CC 35]	--	February 17, 2018 [CC 75-76]	She cannot describe what FCA should have told her about the monostable electronic shifter [CC 95] if FCA knew the shifter was defective, she feels like she should have been told or should not have been sold the vehicle. [CC 101]
Dial, Krystal	Prior vehicles didn't have recalls [KD 82-83] Thinks recalls have impacted resale value of their Dodge Ram [KD 31] Did research before purchasing her Buick Enclave to see if it had a recall [KD 200]	Yes, not about shifter [KD 90-91, 93]	--	--	--	Doesn't know [KD 210]
Felker, Debra	Believes her 2006 Nissan Armada was involved in a recall, but doesn't recall what [DF 67-68]	No [DF 28]	--	First notice in early spring of 2016 and second in 2nd or 3rd week of July 2016 [DF 133]	July 22, 2016 [DF 198]	FCA did not disclose complaints about the shifter to her; if there was something that would affect value or safety of vehicle, that information should be disclosed [DF 99]
Fisher, Todd	No recalls with prior vehicles [TF 59, 60, 61]	No [TF 36, 196]	--	April 22nd 2016 [TF 119]	Neither recall remedy worked [TF 122]	--
Foreman, Kelli	Hasn't had any issues since having repairs on other recalls [KF 180] Doesn't recall owning a vehicle prior to the Jeep that had a recall notice [KF 190]	No [KF 155]	No [KF 170-171]	Has had 10-15 recalls and warranty claims since it was purchased [KF 28]	Has not had the recall repair [KF 32, 50-52, 167] or took her vehicle in to be serviced for all of the recalls so she feels it has been fixed [KF 31-32]	--

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Plaintiff	Prior Experience with Recalls	Contacted FCA?	Contacted NHTSA?	Recall Notice Date	Remedy Date	Disclosure Wishes
<b>Gillispie, Ashley</b>	Camaro did not have any safety recalls while she owned the vehicle [AG 27] Honda never had any recalls [AG 32] Cadillacs did not have any recalls [AG 39, 41]	Yes for first incident [AG 100-101]	No [AG 58]	No date, Exh 5 [AG 115]	Has not had recall performed [AG 122]	When she purchased her vehicle, she doesn't think there is anything else that FCA should have disclosed to her that they didn't [AG 128] Believes FCA should have disclosed to her that her vehicle had a defective gear shifter before she purchased the vehicle. [AG 175] Believes that FCA should have disclosed to her before she bought her vehicle that her car could roll away after she placed it into the Park position [AG 175-176]
<b>Goldsmith, David</b>	Has had one other vehicle recalled [DG 121]	No [DG 76]	Reviewed website reports relating to NHTSA's investigation [DG 17-18, 19]; submitted information about his incident experience within a week on NHTSA's website [DG 75]	Company recall in April of 2016, received a notice a month or two before his actual recall card arrived [DG 20, 21]	July 20, 2016 [DG 21, 81]	"I feel that the transmission and the shifting procedures and the potential for it to not adequately, either through haptic feedback or some other method, inform you of if it's in the intended -in the intended gear that I think that could have been better -- it could have been better communicated." [DG 144] should have been disclosed to him that the human-machine interface was tricky and potentially dangerous [DG 146]
<b>Gunnells, Jacob</b>	2004 Jeep had a recall [JG 24]	No [JG 30]	No [JG 30]	Received June 2016 [JG 106] Has received more than five safety recalls for his 2014 Jeep aside from Auto Park recall [JG 113]	July 30, 2016 [JG 92-93]	He believes that if FCA US, LLC was aware when he purchased the 2014 JGC that there was a potential design flaw or issue with the vehicle correctly shifting into Park, that should have been identified to any prospective buyer of the vehicle. Same thing for when he visited the Jeep dealership at Westgate when he was test driving Jeep vehicles there [JG 130] If they were aware that concerns had been raised by numerous individuals about the safety of the shifter design and whether or not a fix needed to be put into place to avoid a roll-away, he thinks they should have disclosed that to any potential buyer [JG 131]
<b>Guy, Jeffrey</b>	Does not remember recalls on his wife's vehicles or his Mazda or any of his previous vehicles; he has a vague memory of one of the Camrys having a seatbelt issue possibly [JG 125]	No [JG 131]	No [JG 12]	Not mentioned	July 1, 2016 [JG 126-127]	He doesn't know that FCA could have said anything at the time of purchasing the vehicle [JG 139]
<b>Hackett, Danielle</b>	--	She doesn't remember when she called FCA. She told FCA that she wanted the shifter taken out of her car and for them to put a shifter that works. She found out that the 2016 Jeep Grand Cherokee had a regular shifter and she thought they could swap it out. As soon as they saw a 2016 Jeep Grand Cherokee on the lot, they went and looked at it, so it would have been before May, so whenever the model came out, she would have looked it up [DH 89]. When she called FCA and told them she wanted to swap out shifters, she understood that they were going to do it, and she thinks they connected her to Bob & Chuck Eddy, and she thought she was going to be leaving with a new shifter [DH 89-90]	Confirms she contacted NHTSA about her 2015 Jeep Grand Cherokee. She doesn't remember whether it was a phone call. She doesn't believe she wrote a letter [DH 142]. She thinks she went to a website to type in a complaint about the 2015 Jeep Grand Cherokee. She doesn't think she has a copy of what she typed into NHTSA's website. She doesn't remember if NHTSA contacted her about her complaint. [DH 143]	First notice at May appointment at dealership [DH 92] received letter on July 9, 2016 [DH 91]	July 20, 2016 [DH 95-96]	That there were complaints and issues that were known to FCA about the shifter and the safety of the shifter. She doesn't think FCA should have disclosed to her that the shifter was difficult to use. She would have never purchased a vehicle whose safety was at all questionable or compromised. Safety is an important consideration in purchasing a vehicle [DH 135]
<b>Hackett, Joby</b>	Confirms he has received recall notices on his vehicles he's owned over time [JH 87]	He did not contact FCA to find out information about the shifter [JH 170]	--	--	--	He thinks it should have been disclosed to him that people were complaining about the shifter and they were having issues with the shifter [JH 245]. Confirms if he had been told that people were complaining about the shifter he would not have bought the vehicle [JH 247]

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Plaintiff	Prior Experience with Recalls	Contacted FCA?	Contacted NHTSA?	Recall Notice Date	Remedy Date	Disclosure Wishes
Hartt, Bernadine	--	No [BH 220]	Did not call the government or "anybody" [BH 61]	--	August 25, 2016 [BH 252-256]	Thinks the following should have been disclosed to her [BH 299-300] - The gearshift was different from other gearshifts in other vehicles - People have problems using the gearshift - You have to make sure you can adjust it Salesperson should have disclosed information when he was telling her about the car at time of purchase [BH 304]
Havnen, Pamela	Her 2003 Honda had a seatbelt recall on it [PH 89, 179]	Yes [PH 101, 104]	No [PH 103, 176]	After March 2016 incident [PH 126]	April 29, 2016 [PH 116]	Think consumer should know about safety issues, information should be on their website, should tell the consumer about transmission issues [PH 180]
Hughes, Marc	--	No [MH 96]	Did not contact anyone in the government [MH 177]	--	August 16, 2016 [MH 180]	There was a known defect or possible known defect that he should have been made aware of [MH 105] FCA should have disclosed the alleged defect in the shifter in a written form [MH 106] Disclosure should have been provided by the dealership, should said there was an issue with the gearshift, instances where it comes out of park when thought to be in park [MH 107]
Hyatt, Robert	This is the only vehicle he recalls having a recall on [RH 38]	No [RH 41, 93]	No [RH 41]	July 2016 [RH 89]	July 2016 [RH 64]	If FCA did know at the time he purchased the vehicle of a faulty gearshift, he believes that they should have let him and other consumers know about that default before they purchased the vehicle. Information should be conveyed through a conversation with the dealership [RH 47]
Lynd, John	May have had small recall with previous 2008 Jeep Grand Cherokee, nothing significant [JL 69-70]	No [JL 157]	--	Early 2016 [JL 174]	June 24, 2016 [JL 178]	FCA should have disclosed information, including sharing documents, such as the door hanger, with regards to the danger of the vehicle shifter [JL 269-270]
Machtley, Todd	2010 Jeep Wrangler had a recall for the soft top [TM 35-36]	No [TM 46]	--	Does not recall [TM 131]	July 9, 2016 [TM 141]	Confirms FCA should have disclosed information about the defect to the consumer, if they knew about it earlier [TM 182]
Mack, Janella	Had never owned a vehicle that had a recall other than the 2015 Jeep [JM 79]	Yes, through dealership [JM 20, 168]	--	Month or two after April 24 incident [JM 138-139]	July 1-6 [JM 151, 158]	FCA should have notified the consumers of the recalls of the vehicle before the vehicles were purchased [JM 203] When she took her vehicle to be inspected they should have known there was an issue with her vehicle [JM 204] FCA maybe should have disclosed that there were possible recalls [JM 219]
Magnuson, Ann	2002 Expedition had a transmission recall [AM 29-30]	Yes [AM 101]	--	Does not recall [AM 138]	July 7, 2016 [AM 147]	Believes FCA should have disclosed the defect to consumers, the defect is that the monostable shifter was defective. In recalling it, they put a Band-Aid on the situation, they did not fix it [AM 205] FCA should have disclosed to her at the time she purchased the vehicle [AM 207]
Marble, Trevor	Nissan Xterra had recalls on it [TM 39-40] Had previously owned vehicles that had recalls, recalls are "a fact of life" [TM 70]	No [TM 17-18, 40]	--	Does not recall [TM 136]	October 7, 2016 [TM 146]	--
McDonald, Kean	Isn't aware of recalls on his prior vehicles [KM 108]	No [KM 14, 71]	No [KM 14]	--	August 2016 [KM 79]	If a salesperson told him there were a number of recalls, he would not have bought it; perception that vehicle is not safe [KM 96, 104, 105]
Metzger, John	Not sure if his other dozens of vehicles he's owned have been subject to a recall [JM 69] Thinks Trailblazer had a recall on it [JM 77]	No [JM 45]	No [JM 78-79]	--	07/09/16? [JM 55-56]	Thinks they should have told them the vehicle operates in an unpredictable and erratic manner, can display a gear that is not the gear that the vehicle is in, or that it may slip out without additional adjustment by that device [JM 91] Would not have purchased the vehicle [JM 92]

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Plaintiff	Prior Experience with Recalls	Contacted FCA?	Contacted NHTSA?	Recall Notice Date	Remedy Date	Disclosure Wishes
Metzger, Mary	Doesn't know if her other vehicles had any recalls [MM 82-85, 98, 113-114]	No [MM 23-24; 221]	No [MM 23-24]	--	--	That the electronics didn't work properly [MM 261-262]
Nathan, Michael Vincent	--	Yes [MN 214-215]	Yes, contacted safecar.gov [MN 213-214]	Doesn't think he received recall letter like that of Exh 14 [MN 181-182]	September of 2016 [MN 252]	--
Perkins, Casey	No recalls on prior vehicles [CP 71-79]	Not about shifter [CP 205, 212-213]	--	Does not know if it was before June 10, 2016, didn't keep the letter [CP 243-244]	June 10, 2016 [CP 234-235]	Wanted dealership and FCA to disclose that transmission operated differently and that the driver needed to check the dashboard and shifter indicators to verify shifter position [CP 125, 289] Buyers should have been asked to sign off on a warning statement [CP 290-291]
Phelps, Cameron	No [CP 41]	No [CP 138]	--	Has not seen recall notice [CP 145-146]	October 26, 2016 [CP 150-151]	Should have been told there was a safety issue [CP 202-203]
Schultz, Charles	Lexus was subject to an airbag recall [CS 38-39]	Yes [CS 158]	Yes [CS 57-59]	June 2016 [CS 183-184]	"as soon as possible" [CS 194-195]	--
Scott, Melvin	2014 Jeep had other recalls before the monostable recall [MS 42]; doesn't believe there were recalls on his previous vehicles [MS 107-108]	No [MS 28, 30]	--	--	October 2016 [MS 43]	Failure of Chrysler to provide notice to customers that there was a defect in the vehicle [MS 11]
Stedman, Karen	Not aware if prior vehicle had recalls [KS 32-33] She leased a Volvo that had been recalled [KS 70]	No [KS 45]	--	--	11/17/2016 [KS 112]	The defective nature of the shifter was not disclosed to her; it was misrepresentation [KS 65] Should have disclosed that the shifter was safety hazard [KS 147]
Stewart, Dustin	He is not aware of any recalls on his vehicle before he bought it [DS 77-78]	No [DS 88]	No [DS 89]	Some time between April and August 2016 [DS 99] Does not recall when he received second letter [DS 100]	About August 2016 [DS 101]	He's not sure what the dealer should have disclosed to him [DS 135]
Vosburgh, Bruce	He believes his Dodge Ram was subject to recalls [BV 30]	No [BV 108]	No [BV 18]	Remembers getting recall notices in mail [BV 87] Does not remember receiving Exhibit 7 [BV 113-114] Received a notice similar to Exhibit 9 in spring 2017 [BV 123-124]	February 3, 2017 [BV 138, 162]	--
Waggoner, Jay	Couple of minor safety recalls on his Challenger [JW 25] Did not receive recalls on his 2012 300 [JW 47]	No [JW 72]	No [JW 72]	Summer 2016 [JW 127]	August 2016 [JW 125]	FCA should have disclosed the documents Electronic Shifter Quick Reference Information and Electronic Shifter Quick Reference Information re Engage Park prior to purchase [JW 143]
Webster, Cameron	None on Tahoe [CW 33]	No [CW 90, 96-97, 129]	No [CW 90, 96-97, 103]	Does not recall when he received recall notices [CW 67, 149]	July 15, 2016 [CW 152]	FCA US should have disclosed something about shifter to consumers before he purchased 2014 Jeep if they knew it was problematic. [CW 195-196] Should have talked about it more at first inking something was amiss. Should have disclosed to all people that owned car if they knew [CW 196]



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Plaintiff	Prior Experience with Recalls	Contacted FCA?	Contacted NHTSA?	Recall Notice Date	Remedy Date	Disclosure Wishes
Wells, Lindsey	--	No [LW 122]	--	--	July 6, 2016 [LW 112-113]	She believes that they (FCA) should have disclosed this issue -- the shifter -- prior to the sale of the car or should not have had this car for sale [LW 35]
Yacoub, Wisam	Had safety recall on his 2007 Avalon [WY 22]	No [WY 50]	No [WY 51]	He did not receive any letters about the S27 recall [WY 103]	October 4, 2016 [WY 103]	He is not sure of what claims he is asserting against FCA US LLC. [WY 54-55]
Youngstrom, Scott Michael	None for Ford F-150 [SY 113]	No [SY 22]	No [SY 22-23]	The recall date on the notice is May 14, 2016, he does not recall when he received it [SY 246]	January 31, 2017 [SY 263]	Believes FCA should have disclosed the shifter is defective, because it has an inability to put the vehicle in park when someone get out [SY 304-305] If the vehicle had this defect at the dealership, they should have told him that he needed to put on the emergency brake every time he parked it [SY 305] Disclosure should have been made to the dealership from FCA or to him by FCA before he bought the vehicle [SY 306]

## **Appendix G**

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### **Plaintiff Research and Reasons Purchased**

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Plaintiff	Research Prior to Purchase	Reasons Purchased	Dealership Visit(s)	Test Drive	Comments About Shifter Prior to Purchase
Andollo, Justine	TV commercials [JA 47, 58, 87, 91] Articles and magazine pictures [JA 87] Consumer Reports, Edmunds, U.S. News [JA 89, 95-96, 97] Hardbound book at dealership [JA 56, 92]	Safety/something that would perform well on impact [JA 45, 59, 83, 91, 92, 99, 108-109] Knew she wanted a Jeep before car shopping; was "zeroed in" [JA 69, 87-88] Price [JA 83] SUV/something big [JA 86, 87]	Visited Naples Dodge 3x through date of purchase [JA 69] Knew salesman prior to dealership visit [JA 68]	Test drive was on date of purchase [JA 71-72, 73] Went about a mile [JA 110] Salesperson volunteered information about how to use shifter before test drive; he said you get used to it and it becomes like second nature [JA 111-112, 115] Noticed during test drive that shifter was different and she was confused; there was a learning curve [JA 110, 111, 113, 114-115] Did not have a problem with shifter during test drive; she was able to use it [JA 114]	Never heard of monostable shifter before test drive [JA 110] Didn't see anything in reviews about shifter [JA 108]
Berken, Corinn	She knows some of the research her son did; he presented it to her. He presented the Carfax, and he would pull websites and discussed pricing and features of the vehicle, and how it is comparable to other vehicles of similar styles and features and price. She doesn't know which websites he showed her, but there were probably 5 or 10; he was on the computer every day [CB 114] Regarding what other comparable vehicles he was looking at, it was based on what was available at various lots. She doesn't know if safety was a consideration to him when doing his research. She thinks he looked at some trucks, some other Jeeps, the Ford Explorer, and other SUVs [CB 115]	Regarding her role in deciding to purchase the 2014 Grand Cherokee, it was kind of just a sounding board when her son found it. She did not make the ultimate decision to purchase it [CB 111-112] Her son said he wanted a truck, but couldn't afford one. So, he was looking for a bigger vehicle comparable to a truck that he could afford [CB 112] Price was a large driving factor, as well as vehicle type; her son didn't want a small car. Other than price and size of vehicle, resale was driving his decision [CB 121]	Her son visited "so many dealerships", including Chevrolet and Honda dealerships [CB 121]	She believes her son test drove the Grand Cherokee. She did not go with him. She doesn't know if he had any trouble using the shifter during the test drive; she doesn't recall if he said anything to her about it after the test drive. She remembers it being a point of conversation, how it was different [CB 123] She agrees that despite whatever her son found on the test drive, he wanted the vehicle anyway [CB 124] She doesn't know whether her son put the vehicle in reverse during his test drive. She's assuming he put it in park. She doesn't recall him telling her that he had trouble putting the vehicle in park during his test drive. She doesn't recall him telling her the vehicle rolled away during the test drive [CB 125]	Her son asked his dad for instruction on how to use the shifter when he was testing the vehicle out. Her son described it to her and said it was different and returns to the center [CB 123] She doesn't remember if her son thought the shifter was confusing [CB 124] She doesn't know whether her son researched the shifter in the vehicle before he bought it [CB 126]
Bernal, Eliam <goes by Marrero Bernal	No research prior to vehicle's purchase. He trusted the salesman. He did see a Jeep Grand Cherokee commercial [EMB 91]	He wanted a Jeep, but not a specific kind [87] Security and comfort [EMB 89], the Jeep Grand Cherokee was bigger than the Cherokee, thought the Cherokee was small [EMB 88-90] He wanted a Jeep because they are expensive luxury items in Cuba, where he immigrated from [EMB 23-24]	Purchased the Jeep the first day he visited the dealership [EMB 87] He did not consider visiting another dealership [EMB 79]	He did not test drive any other vehicle that day. He is not sure if he test drove the actual vehicle that he purchased. Test vehicle felt right when he drove it [EMB 88-99] The Grand Cherokee that he test drove had monostable shifter and he was not confused by it [EMB 100] Nobody at dealership offered to demonstrate the shifter [EMB 101]	He test drove vehicle, used the shifter prior to purchase. Did not think shifter was different in any way. No discussions about shifter during test drive with salesman. He recalls shifter returning to center during test drive. Was aware of this mechanism prior to purchase [EMB 82-83]
Brooks, Taylor	Did not review any marketing materials or do any research prior to purchasing [TB 38, 58] Just looked at dealership websites, doesn't recall seeing anything about safety [TB 54, 58] Knew from friends and family that it was good, reliable, and safe vehicle [TB 58] Also considered a Dodge Charger and Cadillac coupe [TB 53]	Price [TB 55-56, 69]	Visited twice before purchasing [TB 49] First visit, just walked around [TB 60] Went to one other dealership [T 55]	Test drove the same vehicle he purchased the day he bought it [TB 57, 59-60] 10-minute drive on outside streets and highway [TB 60, 61] Did not notice anything different about shifter and did not find it confusing to operate; thought it was easy to figure out [TB 61, 62] Salesperson did not say anything about shifter during drive [TB 62, 185]	Didn't know anything about the shifter prior to purchasing [TB 59]
Colrick, Clare	Didn't do any research [CC 49] Didn't consider any other vehicles [CC 49] Received advertisements for the vehicle [CC 49]	Safety, utility, reliability, value [CC 49] Wanted an SUV for space [CC 49] Concerned about her prior vehicle breaking down [CC 48-49] Liked her 2010 model and just wanted a newer one [CC 51]	Visited the day she purchased [CC 50] Doesn't remember if the salesperson explained the shifter or if she asked any questions about it [CC 54, 59-60, 65]	Doesn't remember if she did one [CC 50, 51]	--
Craig, Cris-Ann	She did not look at any vehicles aside from Jeep Grand Cherokees [CC 40], she recalls googling mid-sized SUVs and looking at different options, looking at Toyota and GMC Acadia, she looked at Consumer Reports and the Edmunds reports for mid-size SUVs [CC 40] She was already going to purchase a Jeep Grand Cherokee before she test drove it. She had done prior research for months, including Googling reviews, "the safety, reliability." She doesn't recall any of the reviews talking about the monostable shifter. A lot of the reviews talked about the new platform. [CC 48]	looking for a family car that would be safe and reliable [CC 36], She decided to purchase the vehicle because she needed a third one with two other drivers in her household, and was confident in the Jeep brand, and the reviews [CC 49]	She bought the Jeep the day she went to look at it [CC 41], she went to Bluebonnet Dodge because she previously bought a vehicle there [CC 39], she was looking at the Laredo versus the Limited [CC 42], she did not consider any other vehicles, she went there only interested in the Jeep Grand Cherokees [CC 42]	She test drove several vehicles that day, she's not sure which [CC 42], she test drove the exact vehicle she purchased, she test drove with her daughter in the car, she drove it for just a few blocks and decided to purchase the vehicle [CC 43]	She did not notice the electronic shifter when she was test driving the vehicle [CC 43], There was a brochure folded and rubber-banded around the shifter, and she recalls the lady saying it was a special design or something, while they were test driving the vehicle [CC 44], she did not ask the saleswoman any questions about the shifter when she pointed it out [CC 45]
Dial, Krystal	Considered multiple vehicles including Buick Enclave and Subaru; didn't test drive those [KD 66, 67] Doesn't recall if she did any research [KD 74-75] Does not recall looking at anything other than dealer websites [KD 77]	Safety [KD 69, 81] Price [KD 81] Size [KD 68, 81-82] Leaned toward Jeep because she saw one in town and she had a Jeep before [KD 66] Headlights, heated seats, leather seats [KD 70, 81] Jeeps are in her family [KD 69]	Visited once prior to purchase; vehicle was then delivered to her [KD 58] Visited a different dealership months before her purchase; looked inside but doesn't remember the shifter [KD 70, 71]	Test drove a different 2014 Jeep Grand Cherokee [KD 61] Her husband and salesman wer with her [KD 61] Drove for about 5 minutes doing city driving [KD 61] Put vehicle in drive and park, but not reverse [KD 61-62] Wasn't confused about shifter during drive [KD 78, 79] Wasn't given a demonstration of the shifter [KD 79]	Mentioned during test drive that shifter was different because when you push it, it comes back to center, but wasn't confusd by it [KD 62, 78, 79]

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Plaintiff	Other Comments About Shifter	Read Owner's Manual	Read User's Guide
Andollo, Justine	View of selected gear on dashboard is partially obstructed by steering wheel [JA 33, 169] Indicator light on shifter is hard to see because it's so bright in Florida and light is dim; also hand sometimes blocks it [JA 34, 225] Shifter feels like a normal shifter when you touch it, but the movement is different/it toggles [JA 113] Requires more effort because you have to pay more attention to make sure it's where it needs to be [JA 232] No chime if door open and vehicle is not in park, both pre-and post-recall [JA 272]	Did not read unless there was something she was looking for [JA 211] Never read any warnings [JA 214-215]	Read portions of it, has seen it [JA 212, 227] Never read any warnings [JA 228]
Berken, Corinn	The shifter in her Grand Cherokee is a center console shift, upright stick, with a larger handle at the top. There's a button on the left side that you push in. She believes you have to push that button anytime she's shifting gears [CB 16] She believes there are no indicators on the gearshift itself that tell you what gear you're in [CB 17] On the dashboard, there's a lit up letter: the one that is lit up indicates which one you're in. The letters can be obscured by the placement of the steering wheel. She has moved so she's able to see the letters, and then she can see them [CB 21] She believes the shifter in her vehicle is defective because it doesn't always work [CB 22] In her experience, when she puts her vehicle in park and sees the P on the dashboard, it jumps itself out of park without her doing anything [CB 23] It's fair to say that nowadays when she drives the vehicle, she's not confused about what gear it's in because she's learned how to use it [CB 176]	She didn't read anything in the owner's manual before her son bought the vehicle. It could have been in the vehicle before he bought it, but she doesn't know if he read it before buying it [CB 141] She did not read warnings in owner's manual regarding the parking brake and exiting the vehicle while it was running [CB 143-144, 144-145]	She agrees that she did not read the user guide before her son bought the vehicle, and she does not know if he read it before he bought the vehicle. She agrees that the user guide may have been in the glove compartment of the vehicle available to her son before he bought the vehicle [CB 140] She doesn't recall ever looking in the User Guide for the Jeep to look for methods of how to put the vehicle into park [CB 201]
Bernal, Eliam <goes by Marrero Bernal	He does not know what a monostable shifter is [EMB 80] He did not pay attention to shifter when he purchased the vehicle because he was more focused on features such as GPS and XM radio [EMB 82]	Yes; he looked at his owner's manual for features, particularly radio/Bluetooth feature [EBM 134]	Does not recall reading User's Guide [EBM 151] Did not pay attention because guide references vehicles sold in Canada. Confused; thought it wouldn't apply to them. [Guide refers to the name substitution FCA Canada, Inc. for FCA US LLC]. He never actually looked at User Guide and found it confusing [EBM 152-153]
Brooks, Taylor	Doesn't think the shifter needs any instructions and has never been confused by it [TB 112-113, 156] There are three different "stages" and he can feel it go through each stage [TB 114] He's had trouble putting his car in park, when he thinks it's in park, but it's in reverse [TB 136-137] Shifter won't stay in park because it was poorly made [TB 156-157]	Only looked at the parts on Bluetooth, different drives, and a couple buttons on the dash [TB 95-96] Did not understand that it included warnings [TB 95]	No [TB 96, 106] Did not understand that it contained warnings [TB 95]
Colrick, Clare	It is difficult to see shifter gear indicator in the sunlight [CC 43] First time she used it she didn't have any difficulty [CC 64]	Believes she looked over materials, but doesn't remember seeing anything about the shifter [CC 66]	Doesn't know if she received it [CC 56]
Craig, Cris-Ann	She believes the shifter has been defective since she bought it. She has had some trouble or difficulty with it. [CC 34] She doesn't recall when she first had difficulty using the electronic shifter. It was always "different" to her, in that it shifted differently from anything she had ever driven. [CC 57] She would have trouble trying to get it into a gear, thinking she had it in Park or Drive, and it was in sport, or thinking she had it in Drive, and it was in Neutral. She got used to checking and double-checking. [CC 57] In March 2014, during her seven months owning the vehicle she had difficulties using the monostable shifter. She would think it was in Drive, and it was in sport mode, or she would have to double check to make sure it was in Park. There were times where she was backing out in a parking lot and went to go forward, and when she was hurrying and someone was behind her, she pressed the gas, and it was in Neutral. [CC 62-63]	She did not read the entire owner's manual before purchasing the 2014 Jeep Grand Cherokee. It was shown to her by the salesperson. [CC 56]	She is not sure if she has ever seen the user's guide [CC 56]
Dial, Krystal	When she pushes the gearshift as far forward as she can, it's not always in park [KD 50, 90, 198] Shifting in the monostable is a smooth glide and there is no clicking [KD 129] Doesn't think she'd need instructions on the gearshift because all gearshifts are the same [KD 128] Thinks she has seen the car say it's in park when it's not in park [KD 202]	Has looked at it, doesn't remember why but probably something to do with radio or seat; never read it front to back [KD 111]	--

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Plaintiff	Research Prior to Purchase	Reasons Purchased	Dealership Visit(s)	Test Drive	Comments About Shifter Prior to Purchase
Felker, Debra	Didn't review marketing materials before purchasing [DF 49] Only research is what she saw on television and what salesman at dealership told her [DF 83, 84] Recalls TV ads mentioning best in class in performance, fuel economy, and safety [DF 85] Was also considering a Ford Expedition and Toyota SUV, which she also test drove [DF 79] Didn't investigate whether it had any recalls [DF 237]	Body style [DF 82] Vehicle features [DF 82] Price [DF 82] Safety [DF 82] Color [DF 82] Wanted smaller vehicle than Nissan Armada [DF 80]	Went twice, two days in row; first time, did a test drive, and second time did price negotiations and signed purchase contract [DF 79, 80, 82]	Husband and salesperson were with her [DF 81] Drove a few mile radius [DF 100] Noticed the shifter was different, but did not have any problems with achieving the desired gear; was not confused at all [DF 101, 102] Did not ask questions about the shifter and salesperson did not tell her anything about it [DF 92, 103, 156]	Did not read anything about monostable shifter prior to purchase [DF 99-100]
Fisher, Todd	Did not look for info on Jeep shifter or transmission before purchase [TF 95] Had seen TV ads for Jeep [TF 95] Did not see others' experiences with shifter [TF 100]	Safety ratings, looks [TF 84, 93]	Two visits prior to purchase (purchased on 2nd visit) [TF 86, 89]	Test drove Jeep prior to purchase [TF 88]	No issues with the shifter, figured out shifter returns to center, thought it was "a little" confusing and was interesting [TF 89, 90] No issues putting it into Park during test drive [TF 90] Has not read about how monostable shifter operates or electronic shifters in general [TF 155-156]
Foreman, Kelli	She has not read about monostable shifters, read about electronic shifters in general, or performed any internet research on electronic shifters [KF 157]	Thought it was a safe and reliable vehicle, and salesman said it had good resale value [KF 26, 80-81]	Once and purchased her vehicle on that visit [KF 62]	Did have a chance to test drive it and use the shifter before purchasing the vehicle [KF 63-65] Did not test drive any other vehicle [KF 79]	Didn't receive instructions on how to use it, but was able to use it during her test drive; Did not think it was confusing to use and did not think she needed instructions on how to use during test drive [KF 77-79, 144]
Gillispie, Ashley	Did research to determine the value of a 2015 Jeep [AG 85-86] Didn't visit any websites to do any research about this vehicle, didn't look at any consumer reports, and didn't review NHTSA's website [AG 87-88] Did not review any online complaints or research prior recalls [AG 89]	Looks, size [AG 64, 68]	Went to Dow twice before actually purchasing the vehicle on the third visit [AG 69, 81]	Test drove a 2015 Jeep Grand Cherokee for about 10 minutes [AG 73] Test drive on second occasion was about five minutes [AG 77] Didn't test drive on the third visit; just left with the car [AG 81]	Did use the gear shifter during first drive and didn't have any problems, but noticed it was "different" [AG 73] Didn't have any thoughts about gear shifter after test drive [AG 78]
Goldsmith, David	Went online to research the different small size SUV's on the market at the time; went to Edmunds to look at different classes of vehicles and price ranges and owner experiences [DG 30]	Bigger vehicle, safety, didn't kill him on the gas mileage [DG 29]	Visited Hanford dealership [DG 35], Clovis dealership [DG 35], Selma dealership [DG 39]	Test drove in Clovis - dealer went over basic features, how to use the shifter, and the fact that it returns to a single position [DG 42]	Found it different than the shifters he was used to [DG 44] didn't have any difficulty operating the shifter on the test drive [DG 44, 45, 144-145] used the shifter once or twice on the test drive [DG 44] aware at the time of the test drive that there was an indicator on the shifter as well as the instrument panel that showed what gear the vehicle was in [DG 46-47]
Gunnells, Jacob	Doesn't recall doing any online research to learn about the electronic shifter in the 2014 Jeep after test driving it at Westgate [JG 46] Did internet research about the 2014 JGC before purchasing - primarily looked at jeepforum.com but doesn't recall anything about the monostable shifter [JG 53, 54, 55] Went on jeep.com and was focused on new vs used pricing, the different options available, and safety features [JG 55]	All purpose vehicle with 4 wheel drive capacity, towing capacity, history with Jeep [JG 35, 138-139]	Multiple visits, purchased vehicle on his second visit to Mark Jacobson Toyota [JG 43]	Test drove a few different options of the JGC at Westgate Jeep, including a 2014 and 2015 JGC [JG 38] Drove at least two different vehicles, each with a monostable shifter, for approx. 10-15 minutes each [JG 39-40] Salesperson did not inform him that the vehicle had a monostable shifter [JG 43-44]	Notice the monostable shifter, thought it was interesting and a different design than what he has used before [JG 38-39, 45] Doesn't remember if he had any difficulty shifting the vehicle from Park to Drive during test drive [JG 44] Had a little bit of trouble at Westgate Jeep initially getting used to the shifter [JG 44] Only factored into his purchase decision to the extent that he thought it was a new technology design, something unique, an additional selling feature of the car [JG 60-61]
Guy, Jeffrey	He did extensive test drives through multiple dealers, multiple manufacturers and models [JG 50] Online research with reviews, consumer reports, safety reports [JG 50-51]. Multi-phase search narrowed down to SUVs [JG 52]	Decided to purchase based on safety, durability, reliability, retention of value, and it met his physical needs [JG 50, more details JG 87-90]	Used to work in dealership sales [JG 23], visited multiple dealerships: Supertition Springs Chrysler Jeep Dodge Ram, Bill Luke Jeep, San Tan Dodge, Chapman Jeep [JG 55]	Did test drives on the Toyota Highlander, Ford Explorer, and Jeep Grand Cherokee [JG 53], over year prior to purchase did multiple test drives in Jeep Grand Cherokee with multiple dealerships [JG 55]	He initiated conversation about shifter on test drive, asked how it worked and said it felt odd [JG 56], he initially removed Jeep from priority list because of the shifter [JG 56], but ultimately decided to purchase because there was no other aspect that was displeasing and he believed he could manage to learn to accept the shifter being different [JG 57]
Hackett, Danielle	Saw a commercial on TV with zero percent financing and safety rating [DH 53], did no research about vehicle prior to dealership visit [DH 55], doing research about recalls is not something that she does [DH 77]	Wanted a smaller car than Suburban they were trading in [DH 72], they always want to have the newest car [DH 52]	Visited Bob & Chuck Eddy dealership twice before purchasing [DH 51]	No test drive the first time they went to dealership [DH 56], second visit she took test drive [DH 58],	She liked the way the vehicle handled in the test drive [DH 59]. The first time she used the shifter was when she got into the vehicle and attempted to leave the parking lot. She shifted from park to reverse. She noticed the shifter was different. She noticed that she didn't like it and it wouldn't go into reverse properly [DH 60] She remembers talking to her husband about how the vehicle test drove. They talked about how they really liked the car, it was incredibly quiet inside, probably one of the quietest cars they ever drove in. And it handled very well, and it was incredibly hard to shift, and they did not like the shifter [DH 67] She was going to a gas station to put gas into the vehicle. She had to pull past the gas pump and back into it, which was a very typical way that she would get into a gas station because she is usually driving a larger car so she's used to that, and she could not get the car into reverse. She pulled forward, she went to reverse to back up to the pump, and she was startled to the engine revving really high and looked down forward at the gear she was in and she was in neutral. That was not the gear that she was supposed to be in. [DH 68]
Hackett, Joby	He did not research the safety features of the Grand Cherokee before he bought it. He did not do research to find out whether there had been any recalls on the Grand Cherokees [JH 102]	He didn't like the way the Durango or the Explorer looked, the only thing he considered was how it looked [JH 106-107]. They decided to buy the vehicle because it was more the looks, and what safety that he believed was on the vehicle from the commercials that he had seen [JH 130]	Went with his wife to Bob & Chuck Eddy Chrysler [JH 110], thinks they may have driven through the Ford dealership just to look at the Explorer [JH 109], visited the dealership maybe two or three times before test driving the Jeep Grand Cherokee [JH 115]	His wife took the first test drive, then he thinks he would have been in the second test drive [JH 116]	He recalls his wife saying the shifter had a funny function or feel or both [JH 116], he knew there was something different about it [JH 118]. He had trouble getting the vehicle into park on the test drive [JH 120], it doesn't let you go right into park and actually go into park. You have to kind of move the shifter lever a few times to get it into park. There's not a set point where it actually sets itself into park. He doesn't recall if you push the handle all the way forward and hold it there if the vehicle will go into park [JH 125]

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Plaintiff	Other Comments About Shifter	Read Owner's Manual	Read User's Guide
Felker, Debra	Would push shifter all the way forward to get to park [DF 166] Vehicle either does not go into park as the light on the dashboard indicates or it does go into park and then pops back out [DF 25] She has experienced vehicle not go into park as light indicates [DF 25-26] Moving the monostable shifter required less effort and traveled a shorter distance than shifter in other vehicles [DF 176, 180] "Like a joystick from a video game" [DF 177-178]	Read section on frequency of required oil changes [DF 156] Did not know it would include warnings about vehicle's usage [DF 156] Doesn't recall ever reading warnings in any owner's manual of any vehicle she owned [DF 169] Disagrees with comment that you should never exit vehicle with engine running [DF 194]	Only to refer back to something she needed clarification on; never reviewed warnings [DF 170, 171]
Fisher, Todd	Pushes shifter button down and slides into Drive at the bottom; believes shifter goes to center after any gear change; shifter is located in center console [TF 48] Didn't read or know anything about shifter prior to purchase [TF 86]	Has looked at it before [TF 134] Did not read front to back [TF 135]	Did not have a user's guide [TF 65]
Foreman, Kelli	Does not know about the technology of the gearshift [KF 35] That neutral, reverse, and park require a forward movement of the gearshift; sport drive and sports gear require a backward movement [KF 150] shifter in her Jeep is not like the shifter in the vehicles she's previously owned because you do not feel anything when putting it in gear [KF 151-152] did not realize the gearshift was different during her test drive or think that it was something that she was going to have to get used to [KF 151-152]	Has looked at owner's manual but hasn't read it front to back [KF 124]	Not sure if she has seen user's guide before [KF 138]
Gillispie, Ashley	Didn't have difficulty using the gear shifter, but noticed it was different [AG 73] Didn't feel like it popped into gear like the other vehicles; just kind of went back and forth [AG 73-74]	No [AG 82]	No [AG 82]
Goldsmith, David	Didn't have any difficulty operating the shifter between August 15 and 24 [DG 48] "Muscle memory at that point in time" (at time of first incident) [DG 85-86]	Upon receiving the vehicle, looked in the manual to familiarize himself with the infotainment system, setting up Bluetooth, Uconnect subscriptions, adjusting the seats and steering wheel, and the cockpit [DG 63] Didn't read it cover to cover [DG 64]	Doesn't recall a separate user guide [DG 64, 163]
Gunnells, Jacob	Believes the shifter is designed defectively because he has personally found it very difficult to use, and not intuitive, and unlike every other shifter he's ever used in a car [JG 28] don't have a good feel of what gear you're in without visually inspecting the dash or the light on the shifter itself after shifting [JG 29]	Didn't ask to see Owner's Manual prior to purchase [JG 50] Read page 400 of owner's manual shortly after purchasing car [JG 104-105]	After purchasing the vehicle, glanced through the user manual, maybe not word for word, but looked at every page [JG 71] doesn't recall reading section relating to the monostable shifter prior to recall notice, but has read this section since the recall notice [JG 71]
Guy, Jeffrey	He had no physical restrictions not allowing him to put it in park [JG 15, 155], he didn't think that it was coming out of gear inappropriately [JG 153], he didn't raise concerns with sales manager about shifter because he would have wanted to replace the transmission with a traditional transmission [JG 60]	He read the owner's manual; since it was his first brand new vehicle, he took very good care to read the owner's manual [JG 143]	He recalls receiving a user guide [JG 140]
Hackett, Danielle	It's not safe. It's not consistent, and it's not reliable [DH 73]. The first time she was able to successfully shift the vehicle from park to reverse. Once the vehicle was in reverse, she then shifted it into drive. She was not able to shift into drive successfully the very first time. She calls it a flag thing [DH 61]. A flag comes up, when you're in sport mode. She must have gone too far into drive, like one click past drive. She had intended to put the vehicle in drive but had inadvertently put it in sport mode [DH 62]. It feels different because it is very tricky and inconsistent. with this shifter, it doesn't matter how much experienced that she had in the car, that movement has been inconsistent. sometimes she tries to put it into reverse, it overshoots to neutral. if she's in drive or neutral and she tries to put it into reverse, it just never goes and it's just never the same movement. Specifically park, she has had multiple instances where she put it into park, the shifter stops, doesn't move forward anymore, and it's not in park. [DH 75]	She has consulted the owner's manual in the 2015 Jeep Grand Cherokee about the shifter. She doesn't know when. Multiple times. She couldn't say when. She specifically read the sections about the electronic shifter. She remembers it said a lot of interesting things. She understood what it said, but it didn't make sense [DH 113]. She did not read the owner's manual before she purchased the vehicle [DH 113-114]	She doesn't remember whether she has seen this document before [DH 118]
Hackett, Joby	He has never gotten used to how the shifter operates. He's never driven the vehicle consistently for any amount of time [JH 168-169] He has been in the vehicle probably twice when someone else was driving who apparently thought the vehicle was in park and yet the vehicle rolled [JH 171], there have been multiple times where he feels like, based solely on feel, that he should be able to shift the vehicle into park but somehow it doesn't end up in park. [JH 182-183]. He did not have trouble getting the vehicle to shift out of park or reverse [JH 187]. Confirms that his belief of the defect is that sometimes you push the gearshift forward and if you're not looking at it, it won't be in park. Confirms that's the only defect that he's alleging in the shifter [JH 225]	He did not read an owner's manual at any time [JH 146]	He did not read the user guide at any time [JH 143]

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Plaintiff	Research Prior to Purchase	Reasons Purchased	Dealership Visit(s)	Test Drive	Comments About Shifter Prior to Purchase
Hartt, Bernadine	Looked at reviews [BH 131] Saw some reviews were critical of the Jeep, does not recall reviews critical of the shifter [BH 141] Read on the Jeep website that the vehicle had reputation for safety and utility [BH 150-151]	Air conditioning, heated seats, remote start, power windows [BH 160-161] Wanted a white one [BH 147] Her husband went over everything for her and she went by what he said. [BH 160]	Visited two dealerships [BH 143] Visited dealership where purchased one or two times [BH 147] Salesperson told her it was a very safe car [BH 148] Took a brochure about the vehicle and read it [BH 148] Did not ask salesperson if he was aware of any recalls on the Jeep Grand Cherokee [BH 149]	Not sure if salesperson came on test drive, her husband came with her [BH 152-153] Took a ride around, she liked the way it drove [BH 153]	Noticed something was different about the shifter [BH 153-154] Was able to use the shifter on the test drive [BH 154, 155] Before she test drove it, she was not aware that the vehicle had a shifter that operated differently than other shifters [149]
Havnen, Pamela	Looked online, went to different dealers [PH 75, 174]	Ability to flat tow motor home, safety and price [PH 75, 83-84] Jeeps have always been good, reliable transportation [PH 76] Safety was number 1 consideration, vehicle had blind spot monitoring, cross traffic alerts, forward collision, back up camera [PH 77]	Test drove a 2015 Jeep Laredo at Stew Hansen's [PH 77] Purchased at Dewey Dodge-Jeep in Ankeny [PH 78]	She and her husband both test drove it [PH 77, 78]	Noticed that the shifter was different [PH 79] Had an opportunity to move shifter through all the different positions at test drive [PH 79] Did not have any difficulty shifting during test drive [PH 79] Did not have any issues shifting the vehicle when she test drove the vehicle [PH 100-101]
Hughes, Marc	Did not review materials or look online [MH 97] Does not recall advertisements before purchasing [MH 161]	Wanted all wheel drive [MH 111] Did not consider any other cars than the 300 [MH 113] The one he bought was in the best body shape, the mileage was low, and they liked the color [MH 156] Knew he had to buy a car that day, and it was getting late in the day [MH 157]	Went to dealership, drove it, and knew they were going to buy a car that day, and ended up buying that one. [MH 103] There were not representations made to him that he now believes are false [MH 104]	Yes [MH 103, 113-114]	Noticed at test drive that the shifter was different than anything he had ever driven before [MH 114-115] Does not recall asking salesperson about shifter [MH 114-115] He made a comment saying the shifter was different but that he was doing it the right way because he was probably looking at it going how does this work? [MH 114-115] Shifter was pretty self-explanatory, just different [MH 114-115] Did not have problems with shifter on test drive [MH 115-116]
Hyatt, Robert	Saw a commercial, reviewed brochures at the dealership [RH 53-54] Does not recall doing any direct research [RH 67-68]	Looking for a family vehicle larger than a sedan, was looking for dependability and safety [RH 30-31] Purchased because of vehicle reputation for safety and utility [RH 53] Looking for safety, reliability, utility and functionality [RH 66, 71] Drawn to good safety record, good gas mileage and longevity of vehicle, the feel of how it drives, functions of radio and AC [RH 67]	Went to the dealership because one of the employees was the husband of a woman his wife had met [RH 68]	Did a test drive within two weeks of purchase [RH 68] Did a test drive with salesperson, enjoyed driving the vehicle [RH 69] Test drove for under five minutes [RH 70]	Did not notice the gearshift at the time of the test drive, it operated as intended when he test drove [RH 69]
Lynd, John	Looked at marketing materials, completed online surveys [JL 40-41] Went to manufacturer websites [JL 77-78] Looked at websites and advertisement brochures at the dealership [JL 78-79]	Always has Jeeps [JL 21, 49] Price [JL 83], Secure, reliable [83-84] Safety and affordability [JL 84]	Leased from Goldstein Auto Group [JL 48] Also visited Armory Jeep Garage, Lia Auto Group and Stadium Auto Mall [JL 52-53]	Test drove around the parking lot at Goldstein Auto Group [JL 53-54] Test drove a Jeep Grand Cherokee Limited at Armory, Lia, and Stadium [JL 53-54] Test drove with the salespeople for ten or five minutes at Stadium, Armory, and Lia [JL 56-61]	Does not recall if he had noticed anything different about the shifter from previous vehicles he had driven, did not notice that the shifter worked any differently [JL 57, 88], Was not confusing at the time [JL 88] Did not ask about the monostable shifter during any of his test drives [JL 89] Did not pay much attention to shifter [JL 90] Remembers salesperson referred to shifter as a "joystick" and mentioned that it returned to the center position [JL 136-137]
Machtley, Todd	Looked at build options on jeep.com [TM 59-60] Looked at financing information on ussa.com [TM 61] Performed a Google search of 2015 Jeep Grand Cherokee, watched Youtube videos [TM 62] Looked at IIHS for safety rating [TM 63] Looked at NTSB website for safety info [TM 63] Looked at Car and Driver website, read a write-up [TM 63-64] Saw TV commercials [TM 64], Researched inventory of dealership [TM 50]	Contemplating starting a family, and believed Grand Cherokee would be safer than a Wrangler for a family [TM 57-58] Altitude package and color [TM 50] Pricing, safety features, including airbags and side impact [TM 58] Father had owned a Grand Cherokee, he liked the look and shape [TM 59]	Somerset Dodge [TM 49] Chose dealership because of their inventory online [TM 50] He purchased the vehicle the same day he visited the dealership [TM 52]	Test drove with wife in passenger seat, salesperson in back seat [TM 53] Test drive was 15 minutes long, on roads and highways [TM 66]	Did not discuss shifter with salesperson [TM 53-54] Cannot recall if he noticed that shifter returned to center position during test drive. Was aware when he purchased the vehicle that it returns to center position, but nobody told him how to use the shifter [TM 54] Was his first time using a monostable shifter. He tried it out twice, did not put vehicle in reverse [TM 67] Shifter would have been one of the last things he thought about when purchasing the vehicle [TM 124]
Mack, Janella	Did not look at Consumer Reports, Car and Driver or any websites [JM 72] Saw commercials showing vehicle doing a good job in bad weather that was a condition of her employment [JM 218]	She always loved Jeep Grand Cherokees. Prior knowledge of them as reliable and safe based on relatives owning them [JM 66] Wanted to have trim model with leather, a sun roof and navigation [JM 72] Price was important [JM 79]	She went to Garden City Jeep because her grandmother purchased her vehicle from there [JM 56] She did not visit any other dealerships [JM 57]	No [JM 65]	Knew the Jeep Grand Cherokee had a monostable shifter, from driving her godmother's Jeep about three years before [JM 67] When she drove her godmother's vehicle, she thought the shifter was "cool" because it was unlike any regular shifter [JM 75-76] Did not think the shifter was confusing, had no problems driving her godmother's Jeep. The shifter was easy to understand [JM 78]

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Plaintiff	Other Comments About Shifter	Read Owner's Manual	Read User's Guide
Hartt, Bernadine	Have been occasions where she was trying to shift into Drive but got Sport instead. [BH 72] Numerous times she had looked at the gearshift, seen it was in Drive, and then it spontaneously popped itself into Sport [BH 74]	Did not read owner's manual front to back. Read about the sunroof, key fob, things like that. Did not read any parts relating to the shifter [BH 191, 209]	Does not recall if she received User's Guide [185]
Havnen, Pamela	When you shift, it goes all the way up, so it should be in park. Because you stopped, you shifted it into park, you're out of drive. So it doesn't do that, it stops in reverse, so to it's a faulty design. [PH 32] The shifter is like a joystick, it moves just a very tiny bit [PH 30] The shifter is kind of like a mouse, but bigger [PH 55] The shift has a push button on it, but it fits into the palm of the hand [PH 55-56]	Did review the owner's manual [PH 139] Has not read everything, but has been through the Owner's Manual [PH 150]	Does not recall reviewing User's Guide [PH 134] Looked through the Guide for all kinds of information, but does not recall reading how to use the shifter [PH 135]
Hughes, Marc	The shifter is like a joystick, where it does not actually move when he shifts gears. [MH 14] It has a knob at the top, and button the left side [MH 15] Does not believe that are little detents or pauses or stops along the way for each gear, there may be a little hesitation but it is fairly smooth [MH 16]	Has read parts of the manual on the touch screen and key fob [MH 135] Does not recall reading manual section on transmission [MH 139-140]	Did not receive a user guide when he bought the vehicle [MH 128]
Hyatt, Robert	The gearshifter is spring-loaded and returns to the same center position like a joystick, always returns to the center position after the desired gear is selected [RH 90] He only noticed the aesthetic differences about the shifter relative to other shifters he had used before [RH 112] Has never had any difficulty actually shifting or operating the shifter of the vehicle [RH 123]	Read certain sections of manual when he got the vehicle, such as on the radio and tire inflation [RH 30, 110]	Possibly received a user guide in CD, not paper format [RH 121] Does not recall the PRND indication in the location shown in the user guide [RH 122]
Lynd, John	When using the shifter, it always returns to center position, no matter which gear it is put in [JL 123, 141] Shifter "feels like you're actually moving gears," feels different from shifter in prior vehicles [JL 140] With current vehicle he must constantly look back and check the dashboard or lever to check that it is in the correct position [JL 141-142] Probably realized the day he leased the vehicle that the shifter worked differently from his prior Jeep, in that it returned to the center position [JL 288]	flipped through/glanced at [JL 114-115] Does not recall reading or seeing section on shift lever [JL 117] Does not recall reading in manual that parking brake should always be used [JL 132]	flipped through/glanced at [JL 114-115] If he receive the user's guide, he would have glanced at or read it [JL 134]
Machtley, Todd	Shifter goes back to the center [TM 35] Does not personally find the shifter confusing [TM 74] Might not look at the shifter to see if it is in Park if a child is screaming in the back of the car [TM 77-78] Believes the lock button on shifter must be pressed to change gears, except for Neutral, which does not require a button press [TM 107-108] Operationally, the shifter is the same except for where it stays in the end [TM 123] When shifting from one gear to another, does not feel the change of shifts in the handle itself or in the vehicle. [TM 123]	Looked at manual to figure out stereo and tire pressure [TM 102] Is aware the manual contains warnings about the vehicle but has not looked at them [TM 103]	Does not recall if he has flipped through it. Has not sat down and read it front to back [TM 115]
Mack, Janella	The shifter stick itself doesn't move. The gearshift is on a stick that doesn't move. It just shifts. "It's like a bobble head." [JM 76-77] Does not have difficulty seeing the shifter displayed on the console or looking in both places [JM 88] She was not confused at all about how her shifter worked [JM 122] Can feel the shifter moving between gears, it is somewhat the same as a regular shifter other than staying in the center position, but it is "softer" or "not as hard" a feeling [JM 127]	Did not understand that the manual contained warnings, she did not read it thoroughly [JM 106] Spent about five minutes skimming through owner's manual within a week of purchase [JM 107] Went through owner's manual looking at pictures of the vehicle and things of that nature [JM 108]	Did not understand that the user's guide contained warnings [JM 106] Spent about five minutes skimming through the user's guide [JM 107] Did not look at anything in particular in the user's guide [JM 108]



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Magnuson, Ann	<p>She saw the Cherokee promoted at Jackson Hole ski resort, she could look at them and they looked like a very nice car [AM 48]</p> <p>Did not do any research, knew Jeep had a good reputation [AM 64-65]</p> <p>She had heard Jeep was very good in the mountains [AM 68]</p> <p>Went to Jeep's website and saw a very convincing ad on safety [AM 69]</p> <p>She saw TV ads that gave her the impression the vehicle was safe [AM 222]</p>	<p>She wanted a sporty car [AM 50]</p> <p>Wanted a vehicle that was good in the snow [AM 70]</p> <p>Safety was a number one factor [AM 222]</p>	<p>She went to Castlerock because it was the only one in Jackson that had a Jeep [AM 61]</p> <p>She made one visit to the dealership, she bought the vehicle the same day [AM 62-63]</p>	<p>Yes, for five minutes, used the shifter in that time [AM 71]</p>	<p>Noticed the shifter was different but thought she'd get used to it [AM 72]</p> <p>She was aware the gear is shown on the steering wheel console, gear shift strip, and next to gear shift before purchasing [AM 72]</p> <p>The shifter did bother her during the test drive, but she thought she'd get used to it [AM 75]</p> <p>Someone at the dealership gave her a demo of the shifter before test drive [AM 75]</p> <p>She understood the vehicle had a monostable shifter prior to purchase, but didn't like it [AM 227]</p>
Marble, Trevor	<p>General Google search, may have looked at Car and Driver. May have gone to Jeep's website [TM 35]</p> <p>Saw a lot of commercials, they said it was a good vehicle. [TM 36]</p> <p>Read review on Car and Driver, they said it was a good car with upgraded interior and nice features, safe vehicle with a restyled body [TM 36-37]</p> <p>Looked at Kelly Blue book [TM 59]</p>	<p>Generally liked the car, specifically the body style, the interior, the safety features, the quality for price [TM 55]</p> <p>Liked that it had airbags, he wanted a sunroof, heated seated and heated steering wheel [TM 55]</p> <p>Price [TM 65]</p> <p>Towing ability, color [TM 66]</p>	<p>Visited Layton Hills dealership twice within two weeks [TM 49-50]</p> <p>Purpose of first visit was to look at vehicle and test drive [TM 50]</p> <p>Went to other dealerships and looked at other SUVs [TM 55]</p>	<p>Test drive was 10-15 minutes [TM 50]</p> <p>Used the shifter on test drive [TM 51]</p>	<p>Remembers something mentioned about the shifter in websites and reviews [TM 37-38]</p> <p>Car and Driver mentioned it was a new shifter FCA had put in vehicles [TM 38]</p> <p>He told the salesperson the shifter was a little odd and the salesperson agreed with him and said it was a new shifter [TM 51, 70]</p> <p>Did not think the shifter was confusing to operate during test drive, but thought it was something he would have to get used to [TM 53]</p>
McDonald, Kean	<p>Thinks he looked at crash performance ratings; his wife had a Jeep and believed it to be one of the safest vehicles [KM 44, 45]</p> <p>Also test drove a Ford Explorer [KM 45]</p> <p>Doesn't think he did research before going to the dealership [KM 49]</p> <p>Didn't research if there were any recalls [KM 58]</p> <p>Didn't look at any consumer websites or marketing materials [KM 58-59, 61]</p> <p>Was aware of TV commercials but they did not influence his purchase decision [KM 95]</p>	<p>Wanted an SUV; handling in snow [KM 43, 46-47]</p> <p>Utility (storage) may have been a factor [KM 43]</p> <p>Safety [KM 43, 99]</p> <p>Dealership proximity [KM 98-99]</p> <p>Price [KM 99]</p> <p>Shifter did not affect his purchase decision [KM 55]</p>	<p>Got a bunch of dealerships in a bidding war [KM 47]</p>	<p>Salesman was in vehicle with him and his wife [KM 51]</p> <p>Conversation during test drive about shifter being different than what they are used to [KM 51]</p> <p>Didn't have any problems shifting, it was just different [KM 52]</p>	<p>Did not come up at all when he spoke to his wife about purchasing the vehicle [KM 55]</p>
Metzger, John	<p>Watched a lot of commercials that said it was technologically advanced, the most award-winning SUV, safe, and reliable [JM 18, 109]</p> <p>Did not do any online research [JM 114-115]</p> <p>May have read an article in a magazine [JM 115]</p> <p>Also was considering a Trailblazer [JM 17]</p>	<p>People at dealership raved about it and said best car on the market, safe, reliable, with features other cars don't have, good for on and off road [JM 17-18]</p> <p>Extremely good-looking [JM 18]</p> <p>Purchased the 2013 Cherokee because he loved this one so much [JM 88]</p> <p>His favorite SUV in the last 10 years, but it has the deficit [JM 93]</p>	<p>Purchased 1.5 weeks after visiting first dealership [JM 18]</p>	<p>--</p>	<p>Noticed during test drive shifter seemed to be less defined than most; if you wanted to put it into a gear, there was not a place to go to define that gear [JM 19]</p> <p>Didn't have difficulty using shifter during test drive [JM 19]</p> <p>Times during test drive he wasn't positive what gear he was in [JM 19-20]</p> <p>Has driven vehicles with monostable shifters before and they seemed okay and worked fine, like the BMW [JM 94, 95]</p>
Metzger, Mary	<p>Was looking for a Trailblazer, but it didn't appeal to them as much [MM 119]</p> <p>Thought TV commercials were very convincing; took away that it was a good, fun, safe car, and good for off-roading; most awarded SUV ever [MM 130-133, 137-138, 208-209]</p> <p>Did not research if there were recalls [MM 134]</p> <p>Did little research prior to buying other/prior vehicles [MM 88-89, 91-92, 114-115]</p>	<p>She went strictly on looks; it was "handsome" [MM 119]</p> <p>Looking for a good, reliable, safe car [MM 119-120]</p> <p>Thought price was expensive [MM 130-133]</p>	<p>--</p>	<p>Salesperson was with her for test drive [MM 120-127]</p> <p>Did not ask questions about the shifter [MM 120-127]</p> <p>Was able to figure out the shifter without any instructions from the salesperson; did not use reverse [MM 120-127]</p>	<p>Said "this is bizarre" re: the shifter during test drive and commented that it felt like a joystick [MM 120-127, 262-264]</p>
Nathan, Michael Vincent	<p>Looked at Jeep website for information on safety and tow ratings [MN 66-67]</p> <p>Saw Jeep Grand Cherokee commercials depicting safety, durability, and longevity. Does not remember specific commercials [MN 76]</p> <p>Read pamphlets at the dealership [MN 77-78]</p>	<p>Reliability, safety, tow rating, gas mileage, affordability [MN 64-65, 65-66, 71-72]</p>	<p>1 visit [MN 58]</p>	<p>He test drove the vehicle [MN 79]</p> <p>Vehicle felt "jolty" and aggressive but didn't notice any other issues [MN 84-85]</p> <p>Operated shifter 2 or 3 times during test drive and doesn't recall any confusion with how it worked [MN 86-87]</p> <p>Didn't have any problems using the shifter [MN 96-97]</p>	<p>Noticed it was "different" in photos on the website [MN 68-69]</p> <p>Agreed that it was pretty intuitive [MN 88]</p> <p>Seemed simple to use and didn't have any issues shifting gears during test drive [MN 88-89]</p> <p>Operates differently than other vehicles he's had previously [MN 90]</p> <p>Seemed pretty straightforward [MN 92]</p>
Perkins, Casey	<p>Researched the vehicle on FCA's website and Google searches [CP 95-98]</p> <p>Did not research recalls prior to purchase [CP 97]</p>	<p>Safety, value, aesthetics, all-wheel drive, color, air conditioning, automatic transmission, reliability [CP 84]</p>	<p>Visited a Chevrolet dealership to look at Impalas as well as the Chrysler dealership [CP 84-85]</p>	<p>He and his wife test drove the 300 [CP 93, 94]</p> <p>Salesman tried to coach his wife on use of shifter [CP 107-109]</p> <p>He didn't have any problems with shifter himself, except for finding that shifting in Reverse is "lumbly" [CP 111]</p> <p>Wife was having trouble with shifter in the parking lot during test drive [CP 114]</p>	<p>Was aware shifter was different prior to test drive [CP 101]</p>

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Plaintiff	Other Comments About Shifter	Read Owner's Manual	Read User's Guide
Magnuson, Ann	<p>The shifter looks like a handle that goes up and down, it is difficult to get the handle into drive. Many times she has started it and it won't go into drive [AM 129]</p> <p>The shifter is different from others in that she cannot feel it go into gear [AM 130]</p> <p>The vehicle will jump from Drive to "1" or "8" when she is driving, slowing the vehicle [AM 132, 140, 173]</p> <p>Believes the design or "manufacture" of the gear shift is not right, or defective because it can move from gear to gear [AM 217]</p>	<p>She did not understand that the manual contained warnings. She understood that it contained instructions for use of the vehicle. She flipped through the manual but did not read it word for word [AM 112]</p>	<p>Did not receive a user guide [AM 122]</p>
Marble, Trevor	<p>His thinks there is something wrong with the shifter, it malfunctions and it is not intuitive how it works [TM 15-16]</p> <p>When he pushes the gear shifter in certain directions, it does not always go where he expects it to go [TM 16]</p> <p>In his current vehicle, he pushes a button and then moves the gear forward or backwards, and it shifts into gear, but always goes back into the middle position [TM 51-52]</p> <p>Does not always know what gear he is in by the feel [TM 99]</p> <p>Shifter is different because it has "no feel" and returns to the center [TM 127-128]</p>	<p>He does not have an Owner's Manual [TM 28, 102-103]</p> <p>Has accessed the manual on the web portal when he has questions about vehicle features [TM 105]</p> <p>Has not read the entire manual [TM 105]</p>	<p>Has a User's guide [TM 28-29]</p> <p>He has consulted the User's Guide for general questions. He is aware that the User's Guide contains instructions and directions and warnings, but he hasn't read it front to back. [TM 118]</p>
McDonald, Kean	<p>He pushes the button and pulls down three time or whatever to get to drive [KM 37]</p> <p>His wife has experienced a couple of rollaway events [KM 21]</p> <p>Can't think of any instances where the vehicle popped out of park [KM 102]</p>	<p>Reviewed on an "as needed basis" if he had aspecific issue [KM 63, 66]</p> <p>Looked up to see how to switch between sport and drive; found sport drive irritating [KM 66]</p>	<p>No [KM 65]</p>
Metzger, John	<p>When you try to put the shifter in park, and the P is lit up, it doesn't stay there or engage; it may start to roll after a period of time and be in reverse [JM 15, 30, 31, 48, 59, 92, 106]</p> <p>Vehicle had abrupt shifts and didn't always go to the gear he was shifting into; if he puts it in P, it's not necessarily in park [JM 29, 32, 106]</p>	<p>Read part about the 8-speeds and manner in which you shift [JM 28-29]</p> <p>Did not recall reading warnings [JM 33, 35]</p>	<p>--</p>
Metzger, Mary	<p>Looks like a modified gearshift because it does not have any placements for actual gears, unlike other shifters that have notches [MM 9-13, 20, 21]</p> <p>Movement between gears is not completely smooth [MM 12-13]</p> <p>Sometimes difficult to stop before she gets to sport mode [MM 14]</p> <p>There are times she thinks it is in park and she takes her foot off the brake and it moves [MM 15-17, 101-103, 212-220]</p> <p>It has slipped out of gear; she puts it in park and it doesn't stay in park [MM 22, 101-103]</p> <p>Doesn't know if she actually saw it in P and the vehicle ever moved, or this happens once per week [MM 101-103, 222-224]</p> <p>Did not mention problems with shifter during her many dealership visits [MM 179-180, 183-184, 186, 187, 188-189, 190-191, 191-197, 203-204, 247, 248]</p> <p>Car lurches out of drive if car is not completely warm when she drives away [MM 212]</p>	<p>Looked at it for a light coming on she did not recognize [MM 139-140]</p>	<p>--</p>
Nathan, Michael Vincent	<p>Not the simplest thing to use [MN 149]</p> <p>Requires more concentration and attention [MN 151, 152]</p>	<p>Has looked at owner's manual [MN 136-137]</p> <p>Pretty sure he test drove car without reading entire owner's manual [MN 136-137]</p>	<p>Can't remember if he owns a user's guide [MN 137]</p> <p>He and his wife have gone through it [MN 142]</p>
Perkins, Casey	<p>Difficult to see gear indicators on shifter or dashboard in direct sunlight. It is difficult to see dashboard indicator when steering wheel is in some positions [CP 22]</p>	<p>Went through manual "cover to cover" but "obviously glossed over things" [CP 167-168]</p>	<p>Recalls looking at the user guide on the DVD [CP 154]</p>

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Plaintiff	Research Prior to Purchase	Reasons Purchased	Dealership Visit(s)	Test Drive	Comments About Shifter Prior to Purchase
Phelps, Cameron	Did not review any marketing material other than the window sticker [CP 57] Looked around online [CP 70-71] Saw advertisements but did not see or read anything specific to the shifter [CP 92-93]	Wanted a newer car [CP 46] Wanted an SUV and chose the Jeep because of the name, looks, and felt safe [CP 68]	Maybe 3 dealership visits [CP 71-72]	Does not recall having any problems putting the car in Park during test drive [CP 75] Does not recall discussing shifter with salesperson during drive [CP 83] First time he drove a vehicle with a monostable shifter [CP 93-94]	Shifter was different because it returned to the same position after shifting, confusing to operate. There is a resistance to the shifter [CP 74, 133] Understood how to operate the shifter at time of purchase [CP 93, 130]
Schultz, Charles	No [CS 59]	Towing capacity, comfort, talking to a friend, size, safety [CS 63-65, 82, 279-280]	Multiple visits [CS 63-65]	Only test drove the vehicle he bought [CS 82]; left the transmission in Drive and relied on it shifting automatically; had an occasion to put it in Park and Reverse; salesperson had to explain the "shift mode" [CS 68-69]	Didn't know what the monostable shifter was prior to test drive [CC 66]; unlike other vehicles he's driven the shifter goes back to neutral, a center position, and it gets confusing [CS 70-72]; different [CS 72-73]; knew shifter was something he had to figure out [CS 85-87]
Scott, Melvin	Didn't do any research or review any brochures/ads on the '14 model before buying it [MS 13]	Previously owned 2006 Grand Cherokee, liked vehicle, felt it was dependable, safe, felt comfortable purchasing another Jeep [MS 13]	Courtesy Dodge [MS 31]	2 times [MS 13-14]	Had a little difficulty operating the shifter on the first test drive [MS 14]; only had difficulty on the second test drive when trying to change gears to reverse [MS 15-16]
Stedman, Karen	Reviewed marketing materials including a sales brochure at dealership and information on the dealership website [KS 42-43, 53, 61-62] Went to a Land Rover dealership; LR was too "squished" [KS 53, 54-55] Did not see any advertisements for the vehicle [KS 59-60]	Financing, safe and reliable [KS 59]	Picked dealership because closest to her home [KS 52]	Took 5-10 minute test drive [KS 55] Had no issues operating the vehicle and shifter wasn't confusing [KS 66, 67] No one showed her how to operate the shifter and there was no conversation about it [KS 67, 69]	Did not see, read, or hear anything about the shifter prior to purchase [KS 65]
Stewart, Dustin	He researched the value of the Jeep at the time of purchase using NADA or Kelley Blue Book [DS 56] He did not research the price of the jeep prior to going to the Brian Harris dealership [DS 73] He is sure he did, but cannot recall visiting any websites prior to purchasing the Jeep or doing any consumer research [76]	He was looking for a new vehicle because he had a larger family and he needed to accommodate his children [DS 62] He was interested in looking at the Jeep brand, the Grand Cherokee, specifically [DS 63-64] Reputation for safety [DS 47, 64, 65] Reliability [DS 63]	He first went to a used car lot, then to Brian Harris Auto Group, which is where he bought the Jeep during his first visit [DS 63, 64]	He test drove the for about 5 or 10 minutes at Brian Harris. His fiancée was not with him [DS 66] He liked the way the Jeep drove [DS 67] He had the opportunity to shift from Park to Drive. It was also his first vehicle with push-button ignition [DS 68] The salesperson went with him and they discussed the shifter [DS 69]	He felt the shifter was "different" during the test drive [DS 67] He was not aware the Grand Cherokee had an electronic shifter [DS 67] The salesperson told him he would "get used" to the shifter [DS 70]
Vosburgh, Bruce	Did not view advertising materials prior to purchase. Was sure he looked at brochure at dealer about vehicle [BV 38] Wanted a Grand Cherokee based on experience with son's prior vehicle [BV 44, 52] Did not research safety prior to purchase [BV 52]	Was time to get rid of the Durango [BV 44] Was looking for a safe, comfortable, driveable vehicle [BV 51-52]	Visited dealer 2 times prior to purchase, probably test drove both times. Not sure if same vehicle both times but sure he test drove the specific vehicle during his second visit [BV 54]	Two test drives. Does not remember whether first vehicle test drive was equipped with monostable shifter. Was possible he drove a 2013 Jeep the first time [BV 55] A week or a few days between dealer visits [BV 56] He used monostable shifter during second test drive (exact vehicle he purchased) [BV 56-57]	Salesperson walked him through operation of the shifter. Shifter had a different feel [BV 58] Thought the shifter was different than other cars he had driving, in that it doesn't lock into place [BV 63] Had no knowledge of shifter prior to test drive [BV 71]
Waggoner, Jay	No specific research regarding 2014 300 shifter prior to purchase [JW 64-65] Does not able to recall specific advertising [JW 85-86]	He liked the way it drove [JW 50] He was looking specifically for a 300 or Dodge Ram [JW 50-51] Wanted leather seats, and liked the airbags and navigation system [JW 51, 57, 62]	Bought vehicle during first visit to Allen Samuels. He did not visit other dealerships prior [JW 52]	He test drove the 2014 300 for about 20 minutes. He drove the car he bought [JW 54]	He used the shifter during the test drive in Drive, Reverse and Park without difficulty. The shifter was the same and felt the same as his 2012 300 [JW55-56] He asked the dealership employee about the gear shifter of the 2014 S300, about it going from park to reverse, she said it had been resolved with a "tweak" to the computer [JW 55-56]
Webster, Cameron	Did not specifically read about 2014 Jeep Grand Cherokee prior to purchase [CW 62-63]	Wife wanted a new Jeep Grand Cherokee since her previous Grand Cherokee's transmission was becoming slow and sloppy [CW 52] Availability of financing was required for decision to purchase [CW 60] Wife liked Jeeps due to size, room, 4x4 capable, large, feels safe on road, likes protection around her. Crash-worthiness [CW 60]	Went to Rairdon's only; it was a simple financial negotiation. Did not go to other dealerships [CW 68]	Did not test drive prior to purchase, might have sat in vehicle but couldn't recall. Looked inside vehicle, did not specifically notice monostable shifter. [CW 54-55]	Did not specifically notice monostable shifter [CW 54-55] or doesn't recall if he noticed monostable shifter [CW 56-57]
Wells, Lindsey	She did research about the type of vehicle she might want to purchase at that time – she went to dealerships and looked online at different models [LW 39] She looked online at different versions of the Grand Cherokee and the price differences between them when deciding to purchase the 2015 Jeep. She reviewed brochures at the dealership [LW 46]	She decided to purchase the 2015 because she felt most comfortable in that car. She had familiarity with driving the car and having a Jeep, having owned a Jeep before [LW 41] Cost was a factor [LW 43]	She visited Fields (FCA dealership) and an Audi dealership [LW 39-40]	Her husband and the dealer were present for some of the test drive [LW 43] She test drove the Grand Cherokee once [LW 40-41] She test drove the Jeep before she bought it [LW 41]	She recalled noticing that the monostable shifter was different when she did the test drive – that it did not physically move into the different gears. She says to operate the monostable shifter she would press the button on the side and tip it forward or backward. Forward was either neutral or park [LW 47]

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Plaintiff	Other Comments About Shifter	Read Owner's Manual	Read User's Guide
Phelps, Cameron	Does not shift correctly; doesn't always shift into Park or other gears [CP 25-26, 32-33] Has more resistance than a regular shifter [CP 133]	Yes, but has not read it front to back (is not sure if it is the owner's manual or user's guide) [CP 111-112]	Yes, but has not read it front to back (is not sure if it is the owner's manual or user's guide) [CP 111-112]
Schultz, Charles	"Kind of deceiving" [CS 181-182]	Read parts [CS 103]	Read parts [CS 103]
Scott, Melvin	felt different than a mechanical shifter [MS 127, 133]	Yes, flipped through it [MS 149, 150]	Skimmed through it [MS 124]
Stedman, Karen	It's very hard without doing a double-check to tell what gear you're in [KS 23-25] Took a little over a month to figure out how to use the shifter [KS 48-49] Has never had an incident where vehicle shifted out of park on its own [KS 77] Has had problems that she thinks she's in a gear but she's not in that gear [KS 81] Shifter is not intuitive [KS 92] Defective because it returns in the same position every time you shift [KS 93]	Has referred to it four times; for oil change frequency, a warning light, how to program garage door opener, and maintenance schedule [KS 87] Didn't check after incident with shifter because shifter was defective and owner's manual wasn't going to tell her about that [KS 91]	--
Stewart, Dustin	The shifter feels different [DS 60] Putting the vehicle in Drive is a downward motion. It does not slide through different gears as you shift downward [DS 60] The shifter is different because it snaps back to the center position and because of the feel [DS 70]	He did not know his vehicle had an owner's manual until about six months prior to the depo [DS 84-85] He has never read the owner's manual [DS 86]	He is not familiar with the User's Guide [DS 106]
Vosburgh, Bruce	He assumes the shifter returns to the center position no matter what gear he is in [BV 60-61] Relies on vehicle movement and light on the gearshift as an indicator of gear the vehicle's in [BV 60-61]	He read owner's manual as needed [BV 91] Is aware manual contained warnings about his vehicle [BV 92]	He believes he looked at guide when he purchased vehicle. Was told by someone at the dealership that the User's Guide contained instructions and warnings [BV 101-102]
Waggoner, Jay	Had complaints about the shifter in his 2012 300, it used to pop out of gear [JW 56] Shifter was not a factor in his purchase of the 2014 300 [JW 62-63]	Did not review "user manual" but did review the content of the owner's manual [JW 131-132]	No [JW 138]
Webster, Cameron	Shifter does not provide feedback to feel like you've shifted [CW 23] Someone intimately familiar with shifter would be able to tell which gear they're in. Wife is intimately familiar, but not him. She has not had any incidents with shifter, but he has [CW 24] Lack of illumination makes gear hard to tell because shifter always returns to same position. Shifter knob light is less susceptible to sunlight hitting it due to being lower in vehicle, it's easier to see [CW 27] Does not recall being confused about monostable shifter on initial drive home from dealership [CW 70] Does not think he needed instructions on how to shift hears in a car [CW 108]	Understands that manual contains instruction, but does not know if he knew it contained warnings. He has reviewed owner's manual for 2014 Jeep [CW 107] He flipped through the manual, specifically looked up how to set the clock and radio up [CW 108]	Does not know if he got a user's guide. [CW 115]
Wells, Lindsey	She also noticed that the indicator light on the shifter was hard to see when the sunlight hit it. She confirms that she could also see what gear the shifter was in on the dashboard, and she did not have difficulty seeing that indicator. She does not remember having difficulty getting the shifter into park, drive, or reverse [LW 49] She told the original dealership about her dissatisfaction with the shifter around the time she purchased the 2017 Jeep Grand Cherokee. She told them that she did not want to keep a car that she did not feel safe in, and that she noticed the 2017 Jeep had a different shifter -- that proved to her that Jeep or Fiat Chrysler recognized that there was an issue with the current shifter and redesigned it in the current model [LW 60-61]	She does not remember reviewing the owner's manual at the time she received her vehicle. She does not normally review the owner's manuals when she gets a new vehicle [LW 151]	She does not know whether she has ever seen the user guide for her vehicle [LW 166]

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Plaintiff	Research Prior to Purchase	Reasons Purchased	Dealership Visit(s)	Test Drive	Comments About Shifter Prior to Purchase
Yacoub, Wisam	He did online research about the Chrysler 300 before purchasing it. He looked at images and "Googled" it, looked at how safe they were. He went on the Chrysler website and built his own. He did not do any research on Car and Driver [WY 36]	He liked the way it looked [WY 28] He decided on the Chrysler 300 because it was safe, the trunk was big, he thought it would take less gas, and it was almost half the price (compared to the 2014 4Runner) [WY 34] His mother liked it, she kind of convinced him [WY 36-37]	He bought the 300 from the Bill Luke dealership on the same day he visited [WY 28]	He did not test drive the vehicle but sat in it, opened the trunk, saw it was pretty big, and went in the back seat to see if it had room [WY 34-35]	He didn't pay attention to the gear shifter before purchasing it. He knew it was automatic [WY 34]
Youngstrom, Scott Michael	He did online research including going to the Dodge website and inputting the different features and options that he wanted. [SY 138] Looked around at other website [SY 138] He doesn't think he did any research regarding recalls on the Charger [SY 144] All of the information he read about the car prior to going to the dealership was from the internet searching that he did [SY 151] The dealer may have given him materials to review before purchasing the vehicle but he doesn't remember what he was given [SY 152]	He was looking for a car with better gas mileage. He wanted a car that was new so he could know it was safe because no one else would have driven it. He wanted a car that was smaller than his F-150 so it was easier to park [SY 136-137]	He went to Planet Jeep either once or twice [SY 147]	The salesperson accompanied him on the test drive. [SY 153-154] He believes the salesperson drove the vehicle first during the test drive while he was a passenger [SY 157]	He doesn't remember how he shifted the vehicle into drive when he was sitting in it for the test drive. He doesn't remember the test drive well [SY 156] He doesn't think he remembers having any problems with the shifter while he was on the test drive. He doesn't remember asking the salesperson how to operate the shifter. He doesn't remember noticing while he was on the test drive that the gear he was selecting was displayed on the dashboard [SY 159] He was able to put the shifter into park during his test drive [SY 159-160]

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Plaintiff	Other Comments About Shifter	Read Owner's Manual	Read User's Guide
Yacoub, Wisam	<p>The shifter is "kind of weird". He doesn't know what gear it is, it just clicks. "It's not like other normal cars that you could tell."</p> <p>The shifter felt more like "a control," not a shifter.</p> <p>To shift from Park to Drive, you turn the car on, push the brake, hit the button and turn it on, then push the brake, and it's like "click, click, click, it's like weird, like wherever it wants to go."</p> <p>Sometimes if he wants to put it in Drive it goes into Neutral instead, and the screen and dashboard did not tell hm [WY 41]</p>	<p>He reviewed the whole User's Manual [LW 35, 42]</p>	<p>He has seen this User Guide for the 2014 Chrysler 300. He didn't read it but glanced through it a little bit [WY 134]</p>
Youngstrom, Scott Michael	<p>The gear shifter on his Charger is different from any shifter he has used in the past. It's more like a digital shifter, so you have to look at the dash to see that the gears are moving. It is a different type of shifter than he's been accustomed to. He doesn't believe the shifter has little stops along the way [SY 12]</p> <p>He believes that the shifter is defective because it was designed with the inability to put the car in park when someone got out [SY 17]</p> <p>When he first got his vehicle, he doesn't think he had any trouble figuring out how to use the shifter. He didn't have any trouble understanding which gear his vehicle was in. He didn't feel like he needed to read the owner's manual to understand how to use the shifter [SY 184]</p> <p>The shifter in the Charger is different than shifters in vehicles he's owned in the past. It's different because the gear is only displayed on the dash, and you don't physically move the shifter to a different physical place. You move the shifter, but it doesn't stay in a different place. [SY 154]</p>	<p>He doesn't know if he received a copy of the owner's manual when he purchased his Charger. [SY 187]</p> <p>Or he did have a manual [SY 191]</p> <p>He thinks he looked in the owner's manual to learn about the automatic lights and the lighting of the instruments [SY 190]</p>	<p>He looked through the user guide after he purchased the vehicle, he does not remember if he read the whole thing [SY 180]</p>

## **Appendix H**

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### **Plaintiff Vehicle Background**

Vehicle Background Information										
Plaintiff	Vehicle	Current Mileage	Date Purchased	Bought or Leased	New or Used	Purchase Price	Date Traded in/Sold	Other Vehicles in Household/Prior Vehicles	Uses for Vehicle	Vehicle Modifications
Andollo, Justine	2015 Jeep Grand Cherokee [JA 9, 39]	Maybe 20,000 miles [JA 234]	12/05/2015 [JA 9, 75]	Leased [JA 39]	--	\$37,310 [JA 82]	Still owns/leases it [JA 16-17, 39] Unsure what she will do when lease is up; may buy it [JA 274]	2016 Dodge Ram 2500 Pickup (husband's) [JA 39-41] 2011 Kia Optima (previous) [JA 43, 85] BMW (previous) [JA 48] Manual transmission Jeep (first car) [JA 106] Honda Accord (1980s) [JA 107] Father's truck w/ steering column shifter [JA 107]	She is the primary driver [JA 43, 118] Uses it for occasional driving to kids' events, errands [JA 119, 121]	Tinted windows [JA 62]
Berken, Corinn	2014 Jeep Grand Cherokee [CB 8]	About 92,000 [CB 35]	Her son purchased it on March 22, 2016 [CB 167]	Bought [CB 159]	Used [CB 111]	\$19,780 [CB 159]	Son not trying to sell it anymore (still own) [CB 216]	Her son Thomas has a 2016 or 17 Dodge Ram [CB 34] Her son Blake has a 2007 VW Rabbit [CB 35] Her younger son also had a "1990-something" Suzuki Vitara [CB 108] Her younger son replaced the Vitara with a 1990s-era Honda Civic [CB 109-110] At the time he purchased the Grand Cherokee, her son was leasing a Chevrolet Cruze [CB 116] Her first vehicle was a 1990s-era Chevrolet Cavalier [CB 64] After the Cavalier, she had a Geo Prism [CB 68] After the Prism, she bought a new 1996 or 97 Ford Explorer [CB 72, 75] She drove a series of dealer demo vehicles while her then-husband worked at a Ford dealership [CB 80-84] In 2009, she bought a Ford F-150 [CB 90-91] She replaced the F-150 with a leased 2010 or 11 Honda Civic [CB 97, 101] After 3 years, she replaced the Civic with another leased Civic that she gave up at the end of its lease in 2017 [CB 103, 106-107]	Before the incident, Thomas drove the Grand Cherokee every day. He still drives it occasionally. Blake drives the Grand Cherokee an average of every other month or once a month [CB 34] She uses her vehicle to get to and from her job. Her commute is 15 or 20 miles each way. She goes into the office at least 5 days a week, and she drives the Grand Cherokee [CB 51-52]	--
Bernal, Eliam <goes by Marrero Bernal	2015 Jeep Grand Cherokee [EMB 14]	Approximately 40,000 (no longer has vehicle) [EMB 61]	May 20, 2015 [EMB 69-70]	Bought (no mention of lease) [EMB 41]	New [EMB 41]	Cash price was \$31,518; total sales price was \$34,955 [EMB 94]	December 2016 [EMB 74-76]	2013 Nissan Altima (current) [EMB 41] 2016 Toyota Camry (wife's, current) [EMB 45] 2004 Ford Explorer (prior) [EMB 46] 2012 Nissan Senta (prior) [EMB 46] His wife had a Nissan Versa (model year not given) that was traded in at the same time as the Altima [EMB 85]	Half mileage spent on trips around NV and surrounding area [EMB 61] Drove 50-5000 miles/week. Drove to Calgary for work [EMB 40-41]	None [EMB 67]
Brooks, Taylor	2015 Jeep Grand Cherokee [TB 7-8]	45,000 [TB 114] 31,515 at purchase [TB 114]	May 28, 2016 [TB 30-31, 45-46]	Bought [TB 30-31]	Used; former fleet vehicle for Enterprise [TB 66]	\$26,988 [TB 46]	Still owns; no plans to sell it [TB 126]	2000 Nissan Maxima (prior) [TB 11, 46, 47] Ford F150 (dad's) [TB 27] Chevy Tahoe (mom's) [TB 27]	He is the primary driver [TB 71] To and from work on city streets and interstate [TB 25] 250 miles per week [TB 26] Used it for errands before the rollaway, but not after [TB 70]	None [TB 39, 72]
Colrick, Clare	2014 Jeep Grand Cherokee [CC 22]	--	August 27, 2013 [CC 48, 50]	Bought [CC 48]	New [CC 48, 50]	--	Still owns [CC 22]	Doesn't currently own any other vehicles [CC 23] 2010 Jeep Grand Cherokee (prior) [CC 23] Ford Expedition (prior) [CC 23]	She is the primary driver and son drives it occasionally [CC 22-23] Still drives it every day [CC 22]	--
Craig, Cris-Ann	2014 Jeep Grand Cherokee [CC 8]	At trade in, 45,386 miles [CC 110]	August 24, 2013 [CC 42]	Purchased [CC 32]	New [CC 38]	--	March 24, 2018 [CC 8] for a 2019 Jeep Cherokee [CC 32]	Chevrolet Tahoe in 2000 [CC 23], 2003 Dodge Truck [CC 24-25], purchased a new 2007 Honda Civic [CC 29], in Jan 2016 traded in Civic for 2016 Jeep Wrangler [CC 30], also has a 2008 Dodge Truck that her son drives, a 2015 Wrangler, a 2006 Chevrolet Impala and now the 2019 Jeep Grand Cherokee [CC 32]	Commuting to work [CC 18, 37], driving kids to sporting events [CC 36]	--
Dial, Krystal	2014 Jeep Grand Cherokee [KD 7-8]	--	January 20, 2014 [KD 22, 59]	Bought [KD 22]	New [KD 45]	--	Still owns [KD 7-8]	2012 Dodge Ram with stick shift (in household; husband's) [KD 30, 32] 2012 Buick Enclave (prior) [KD 34] Jeep (prior) [KD 66]	Everything including commuting to work, bringing her kids to games, and vacation [KD 28] Husband also drives it [KD 53] Parks it in carport at home [KD 85]	None [KD 47]
Felker, Debra	2015 Jeep Grand Cherokee [DF 17]	--	November 17, 2015 [DF 72, 73]	Bought [DF 72, 73]	--	--	No longer owns [DF 17]	2006 Hummer, 2015 Ford F350 (steering column shifter), 2017 Chevy Traverse (center console shifter), 1971 Ford pickup (current) [DF 33-34, 39, 41] 2009 Chevy Silverado, 2012 Toyota Camry, 2012 Nissan Armada, 2006 Nissan Marmada, 2013 Chevy Silverado, 2010 Chevy Silverado (prior) [DF 33, 58] Has owned 10-15 vehicles in last 5 years [DF 87-88]	Mainly for commuting, errands, and vacation travel [DF 30-31] Her daughter-in-law, one or more of her children, and brother-in-law also drove it; husband rarely drove it [DF 88, 90] Kept Jeep in her garage; garage and driveway are not on an incline [DF 110]	None [DF 51]



Vehicle Background Information										
Plaintiff	Vehicle	Current Mileage	Date Purchased	Bought or Leased	New or Used	Purchase Price	Date Traded in/Sold	Other Vehicles in Household/Prior Vehicles	Uses for Vehicle	Vehicle Modifications
Fisher, Todd	2015 Jeep Grand Cherokee [TF 39-40]	29,800 [TF 58]	December 2014 [TF 43]	Bought [TF 43]	--	--	--	Durango [TF 59] 2007 Jeep Grand Cherokee [TF 59] 2004 Acura MDX [TF 60]	Commuter vehicle to work, 65 mile round trip to work, 5 days per week; runs errands with it; doesn't off-road or haul cargo [TF 40, 41]	--
Foreman, Kelli	2014 Jeep Grand Cherokee [KF 7]	76,000 [KF 87]	May 2013 [KF 71]	Bought [KF 26]	New [KF 26]	--	Still owns [KF 179]	Traded in a 2005 Acura TSX when she bought her Jeep [KF 66] 2001 or 2002 Honda Accord, 1996 Mazda Protégé [KF 82-83]	Primary vehicle [KF 87] Never used it for off-roading, hauling cargo, or going on vacation [KF 87-88]	Had the seats upgraded to leather in her vehicle [KF 49-50] No aftermarket parts [KF 90]
Gillispie, Ashley	2015 Jeep Grand Cherokee [AG 43, 62]	63,000 [AG 46]	May 23, 2015 [AG 63]	Bought [AG 63]	New [AG 63]	\$43,245.88 [AG 84-85]	Still owns [AG 53-54, 168]	Her husband has a GMC truck and a Ford truck [AG 46, 47] Prior to Jeep Grand Cherokee, she had a Camaro, a Honda Accord, and two Cadillac CTSs [AG 22, 27, 34]	Daily commuter vehicle to/from work, taking her kids where they needed to be [AG 18, 64, 173]	--
Goldsmith, David	2015 Jeep Grand Cherokee [DG 11]	36,000 [DG 23]	August 2015 [DG 17]	Lease [DG 17]	New [DG 22, 28]	--	Still owns [DG 16]	2013 or 2014 BMW 3 Series [DG 12, 13] Previously owned a 2013 Chevy Volt [DG 17], 2007 Cadillac Escalade [DG 28], 2002 GMC Yukon [DG 28], 1999 Ford Mustang [DG 28], 1993 Ford T-bird [DG 28], Volkswagen Squareback [DG 26], Nissan pickup [DG 26]	Daily commuter vehicle to/from work [DG 24]	--
Gunnells, Jacob	2014 Jeep Grand Cherokee [JG 7]	76,900 [JG 27]	July 12, 2015 [JG 34, 60]	Bought [JG 35]	Used [JG 27, 35]	Paid \$10,000 down and financed \$20,921.91 [JG 61]	Still owns [JG 7]	2004 Jeep Grand Cherokee [JG 19] 2004 Toyota Corolla [JG 26] 1994 Jeep Cherokee [JG 138-139]	Daily commuter vehicle to/from work [JG 16]	--
Guy, Jeffrey	2015 Jeep Grand Cherokee [JG 7]	--	January 31, 2015 [JG 38]	Purchased [JG 12, 37-38]	New [JG 12]	\$33,147 [JG 68]	Sold January 2, 2017 [JG 9]	Wife drives 2016 Toyota Camry [JG 18], prior to Jeep Grand Cherokee drove a 2000 Mazda Protégé [JG 19]	He uses the vehicle for going back and forth to work [JG 19], also drove as part of Rideshare, a second (part-time) employment [JG 19, 75-76]	--
Hackett, Danielle	2015 Jeep Grand Cherokee [DH 7,9]	Approximately thirty to forty thousand miles [JH 30], as of May 5, 2018 the mileage was 38,127	October 15th, 2015 [DH 48]	Purchased [DH 9]	New [DH 48, 51; JH 100]	\$53,985 [JH 127]	Daughter Katelyn currently drives the Jeep [JH 28-29]	Has driven: 1998 Jeep Grand Cherokee [DH 39], 1999 or 98 Chevy Tahoe [DH 40], 2001 TrailBlazer [DH 40], Toyota Rav4 [DH 41], 2003 Chevrolet Suburban [DH 44], 2005 Chevrolet Suburban [DH 44], 2007 Chevrolet Suburban [DH 44], 2010 Chevrolet Suburban [DH 44], 2013 Chevrolet Suburban [DH 44], 2016 Chevrolet Tahoe [DH 44], 2015 Chevrolet Suburban [DH 44], 2016 Chevrolet Tahoe [DH 44], 2018 Chevrolet Tahoe [DH 44], 2000 Ford Mustang, [DH 44], Chevrolet Cobalt [DH 44], 2012 Chevrolet Silverado [DH 44], 2013 Dodge Ram [DH 44], 2015 Subaru WRX [DH 44], Currently owns: 2018 Chevy Tahoe, 2012 Chevy Silverado, 2015 Subaru WRX, 2012 Dodge Ram [DH 46], 2006 International Truck, 2018 Dodge Ram [DH 47]	She was going to primary driver of new vehicle [DH 72], wanted a vehicle that her children, who are drivers, could get into [DH 73-75]	--
Hackett, Joby	--	--	--	--	--	--	--	As part of business, has two bucket trucks, two chip trucks, two stump grinders, two pickup trucks, and multiple trailers [JH 61], 2018 Chevy Tahoe is half personal, half business [JH 69], business owns 2015 Chevy Silverado [JH 69], he owns 2015 Subaru WRX [JH 70], business owns a 2018 Dodge Ram and a 2012 Dodge Ram [JH 71], he owns 2006 International, a 2006 GMC, 1950 Chevy truck with manual transmission, a 1987 Pontiac GTA [JH 72], he and daughter own a 1998 Dodge Dakota, he owns 2012 and 2016 Silverados [JH 73-74]	Downsize from Suburban [JH 100], looking for an SUV, 4-wheel drive, his wife was to be the primary driver, he would possibly use the vehicle for business [JH 101]	--
Hart, Bernadine	2014 Jeep Grand Cherokee [9]	"around 40" [83]	June 28, 2014 [225-226]	Bought [BH 320]	--	\$38,595 [BH 162, 320]	Still owns [BH 45]	Husband's Chevy Silverado 4-door truck [84] Chevrolet Equinox (previous) [113] BMW 6 series (previous) [118]	Drive to work [102] Drives grandson to school daily [83] Has driven it to New Hampshire 10 times [131]	--
Havnen, Pamela	2015 Jeep Grand Cherokee [PH 8]	35,000 [PH 62]	December 19, 2014 [PH 66]	Bought [PH 66]	--	\$46, 589 [PH 67]	Still owns [PH 105]	1993 Jeep Grand Cherokee (prior) [PH 15] 1994 Jeep Grand Cherokee (prior) [PH 15] 2012 Jeep Grand Cherokee (prior) [PH 15] The other vehicles she owned were a 1996 Lexus CX 350, a 2010 Ford Edge, a 2003 Honda Accord, a 2012 Toyota Camry, and a 2002 Ford F-250. [PH 16, 85]	She is primary driver, but is only household vehicle so her husband drives it as well [PH 13] Drives the vehicle 2-3x per week [PH 63]	Tow plate installed [PH 154-156]

Vehicle Background Information										
Plaintiff	Vehicle	Current Mileage	Date Purchased	Bought or Leased	New or Used	Purchase Price	Date Traded in/Sold	Other Vehicles in Household/Prior Vehicles	Uses for Vehicle	Vehicle Modifications
Hughes, Marc	2014 Chrysler 300 [MH 9]	--	May 16, 2015 [MH 118; Exhibit 5]	Bought [MH 118]	Used [MH 116-117]	\$23,798 [MH 118]	Still owns [MH 14]	Lincoln MKZ 2015 (wife's) [MH 29] 2005 Chevy Impala (son's) [MH 30] Ford Mustang (previous) [MH 72] 2014 Dodge Journey (previous) [MH 89] Previous 2010 Chrysler 300 [MH 104]	He is the primary driver [MH 33] He drives his daughter to school daily [MH 32] Drives to and from work [MH 48]	--
Hyatt, Robert	2015 Jeep Grand Cherokee [RH 9]	--	December 2014 [RH 19]	Bought [RH 19]	New [RH 53]	\$37,514 [RH 73]	Still owns [RH 129]	2018 Chevy Tahoe (wife's) [RH 24] 2006 or 2007 Cadillac CTS (previous) [RH 24-25] Honda Accord (previous) [RH 25] 1996 or 1997 Ford Ranger (previous) [RH 26] Cadillac Escalade (previous) [RH 27-28]	Used it to drive to and from work and to the bank [RH 19] Drove for Uber [RH 19-20] He is the primary driver [RH 28]	--
Lynd, John	2015 Jeep Grand Cherokee [JL 17]	50-55,000 [JL 202]	November 30, 2014 [JL 47]	Lease [JL 17]	--	\$47,190 [JL 62-63]	Still leases [JL 198-199]	2009 or 2011 Jeep Grand Cherokee Limited [JL 23] At least three previous Jeep Grand Cherokees [JL 65] 2008 Jeep Grand Cherokee [JL 69] X5 (previous) [JL 66] Mercedes sedan (fiancee's) [JL 98-99]	For business and personal, maybe 60% work and 40% personal use [JL 21-22] Travels for work appointments within a 60-mile radius [JL 22] Travels 1500 miles per month for work, in addition travels 400 miles round trip to Jersey [JL 152]	None [JL 42]
Machtley, Todd	2015 Jeep Grand Cherokee [TM 7]	30,000 [TM 124]	12/20/2014 [TM 49, 60]	Bought [TM 32]	New [TM 32]	\$37,861 [TM 56]	Still owns [TM 150]	2015 Volkswagen Jetta (work) [TM 29] 2016 Jeep Cherokee (wife's) [TM 33] 2010 Jeep Wrangler [TM 35-36], 2005 or 2006 Toyota Tacoma [TM 37]	Is the primary driver [TM 29] Uses for personal use [TM 29] Drives off road once or twice a year [TM 29-30] Puts 100-200 miles/week on vehicle [TM 30] Typically uses the vehicle for city and highway driving [TM 75]	Installed kick plates on the rocker panel of the doors [TM 46]
Mack, Janella	2015 Jeep Grand Cherokee [JM 8]	Approximately 18,000 miles [JM 164]	February 27, 2016 [JM 65]	Bought [JM 61]	New [JM 167]	\$39,895.50 [JM 60, 61]	Still owns [JM 8]	1996 Toyota 4Runner [JM 30] Chevy Tahoe (husband's) [JM 32] 2008 BMW X5 (previous) [JM 34] 2015 Nissan Rogue (previous) [JM 61]	Uses to drop her kids off at school and go to work. The drive to school is five minutes, about three miles [JM 28] Takes about 20-40 minutes to drive to work [JM 28-29] Sometimes uses for errands [JM 29]	No [JM 47]
Magnuson, Ann	2015 Jeep Grand Cherokee [AM 11]	30-32,000 [AM 128]	June 3, 2015 [AM 66]	Bought [AM 32]	New [AM 66]	\$41305 [AM 66-67]	Still owns [AM 11]	Ford Explorer since about 1994 [AM 11] 2002 Ford Expedition [AM 11] 2015 Jeep [Cherokee] Trailhawk (previous) [AM 32] Mercedes (previous) [AM 33-34]	She is primary driver [AM 11] Drives for everyday life activities [AM 12] Drives 250-300 miles per week since she bought vehicle [AM 28] Uses for personal reasons, not business [AM 79-80]	Installed running boards [AM 51-52]
Marble, Trevor	2014 Jeep Grand Cherokee [TM 8]	Between 90,000 and 95,000 [TM 101]	January 2014 [TM 45]	Bought [TM 35]	Used [TM 35] Previously rental car with 21,000 miles [TM 59-60]	Does not recall [TM 60]	Still owns [TM 8]	Volkswagen Passat (partner's) [TM 22] 2011 Jeep Grand Cherokee (previous) [TM 25] Nissan Xterra (previous) [TM 39]	It is his primary vehicle, uses it for commuting to and from work. Once pulled a boat with it. [TM 21] His typical commute is 15 minutes each way [TM 22] He puts approximately 2000 miles on his vehicle per month [TM 22]	No [TM 42]
McDonald, Kean	2014 Jeep Grand Cherokee [KM 9]	32,000-34,000 miles [KM 26, 86]	--	Bought [KM 63]	New [KM 63]	--	Still owns [KM 9]	No other vehicles in household now [KM 27] 1998 Jeep Cherokee, Volkswagen Quantum, Acura Integra (prior) [KM 27, 28] Various shifter types including manual [KM 29-30]	His wife drives it 2/3 or 75% and he drives it 1/2 or 25% [KM 26] Not his daily driving car; takes train to work [KM 9] 6,000-7,000 miles per year [KM 86]	--
Metzger, John	2014 Grand Cherokee [JM 11]	--	April 2014 [JM 40]	--	Used; 16 or 18,000 miles [JM 17]	--	--	2013 Grand Cherokee, 1984 BMW 3181, 1991 BMW 3215iC (other current vehicles) [JM 10, 16]	His wife (Mary Metzger) is still the primary driver and drives it on a daily basis [JM 15, 64] He drives it 5-6x/month [JM 15]	--
Metzger, Mary	2014 Jeep Grand Cherokee [MM 8-9]	50,000 miles [MM 65-67]	--	Bought [MM 118]	Used; 12,000 miles [MM 118, 170]	--	Still owns [MM 78-79]	2013 Grand Cherokee, 2002 Chevy Trailblazer, 1984 BMW, another older BMW, motorcycle, 2002 or 2003 Volkswagen Jetta (other current vehicles) [MM 8-9, 65, 80-81] Ford Explorer, Chevy Tahoe, 1990 BMW, Jeep Wrangler, Pontiac Lamont, Ford Station Wagon (prior) [68-69, 71, 81-82, 104, 114-115] Variety of shifter types including manual; 2013 Jeep has grooves in shifter [MM 81, 82-85, 104]	She is the primary driver; has driven 95% of the miles on it [MM 28-29] Her husband has driven 3% of the miles [MM 28-29] Her sons drive it very infrequently [MM 28-29] Drives it to work in the morning, to the courthouse, and to run errands [MM 38] Drives it less than she used to [MM 156]	--
Nathan, Michael Vincent	2014 Jeep Grand Cherokee [MN 37]	50,000 [MN 109-110]	August or September 2013 [MN 56]	Bought [MN 55-56]	New [MN 56]	Approx. \$38,000 [MN 61] or \$36,2000 [MN 62]	Still owns [MN 28, 174]	Toyota Tacome [MN 28-29] 2008 or 2009 Lexus IS 250 (previous) [MN 28-29] 3 Chevrolet Silverados (previous) [MN 28-29] Ford Ranger in about 2007 (previous) [MN 104]	His wife is the primary driver of the Jeep [MN 60]	No [MN 112-113]

Vehicle Background Information										
Plaintiff	Vehicle	Current Mileage	Date Purchased	Bought or Leased	New or Used	Purchase Price	Date Traded in/Sold	Other Vehicles in Household/Prior Vehicles	Uses for Vehicle	Vehicle Modifications
Perkins, Casey	2014 Chrysler 300 [CP 9]	34,000/35,000 [CP 33-34]	Ordered it on August 12, 2014 [CP 138-139] Picked it up on October 9, 2014 [CP 199-200]	Bought [CP 138-139]	New [CP 138-139]	\$42,644 [CP 142-143]	Still owns [CP 29-30, 303]	1973 Jeep CJ5, 1978 Chevrolet El Camino, 1995 Ford Thunderbird, a 2005 Chevrolet Aveo [CP 35] 1967 Plymouth Valiant (previous) [CP 69] 1977 Oldmobile Cutlass Supreme (previous) [CP 73] 1975 Chevrolet Malibu (previous) [CP 75] 1978 Chevrolet Monte Carlo (previous) [CP 75]	Wife is primary driver of Chrysler [CP 32-33]	Window tint [CP 262]
Phelps, Cameron	2014 Jeep Grand Cherokee [CP 8]	About 45,000 [CP 96]	April of 2016 [CP 66]	Bought [CP 66]	Used; 18,852 miles at time of purchase [CP 80]	\$29,988 [CP 79-80]	Still owns [CP 163]	2001 Toyota Camry [CP 41, 79]	Daily commuter vehicle to/from work (~700 miles/week) and personal use (~300 miles/week) [CP 34-35] Off-roading on dirt roads [CP 35-36] Towing a boat and small trailer [CP 37-38]	Installed a trailer hitch [CP 13-14, 36-38, 57] Roof rack [CP 98-99]
Schultz, Charles	2014 Jeep Grand Cherokee [CS 9-11, 16-17]	43,000 (stated 29,000 at purchase, personally drove 14,000) [CS 33-34]	09/15/15 [CS 29-30]	Bought [CS 29-30]	Used; 29,000 miles [CS29-30, CS 83-84]	\$38,392 [CS 73]	Still owns [CS 9-11, 217]	1998 Chevrolet Blazer [CS 13] 2007 ES 350 Lexus [CS 33, 38-39] 1999 Chevrolet Tahoe [CS 36-37] Dodge Dart [CS 84-85]	to pull his boat, comfortable vehicle to take on vacation [CS 29-30]	No [CS 59-60]
Scott, Melvin	2014 Jeep Grand Cherokee [MS 13]	52,000 miles at trade in [MS 94]	2013 [MS 13, 28]	bought [MS 13, 24-25]	New [MS 13]	\$41,030.48 [MS 86]	Got rid of it because he was in an accident [MS 10, 45]; got a 2016 used Jeep Grand Cherokee with 29,600 miles on 10/4/17 [MS 10, 94]	Jeep Grand Cherokee [MS 13]	--	--
Stedman, Karen	2015 Jeep Grand Cherokee [KS 7]	--	March 2015 [KS 51]	Bought [KS 56]	New [KS 59]	\$42,475 [KS 56]	Still owns [KS 116]	2015 Volkswagen Passat (husband's; she doesn't drive it) [KS 30] 2008 Land Rover, 1995 Jeep Grand Cherokee, 2003 or 2005 Jeep Grand Cherokee (prior) [KS 31, 58]	Uses it for personal use and her typical commute is 14 miles round trip [KS 30] Husband drives it 1-2x/month [KS 14] Parks it in the garage at home or in the parking lot at work [KS 72]	WeatherTech trunk liner [KS 45]
Stewart, Dustin	2014 Jeep Grand Cherokee [DS 7]	18,494 at time of purchase [DS 75] About 105,000 today [DS 103]	April 21, 2015 [DS 124]	Knew he wanted to buy rather than lease [DS 73]	Used [DS 73-74]	\$26,250 [DS 74]	Still owns [DS 131]	Mitsubishi Eclipse purchased in 2004 or 2005 and owned for about a year [DS 32] Chevrolet 1500 pickup truck purchased approximately in 2005 [DS 35, 37] 1993 Chevrolet truck that was owned for several years [DS 38, 39] A work van of some sort [DS 39] Ford F-150 pickup [DS 40]	Commuting to work and bringing his kids to and from school and therapy appointments [DS 63]	--
Vosburgh, Bruce	2014 Jeep Grand Cherokee [BV 8]	Sold Jeep on 10/30/2017 with 112,629 [BV 147]	June 2013 [BV 42]	Bought [BV 42]	Had 4900 miles on it, but was considered new [BV 38]	\$41,675 [BV 47-48]	Sold on 10/30/2017 [BV 147]	2002 Jeep Grand Cherokee (previous) [BV 38-39] 2008 Dodge Ram [BV 28] Dodge Durango (previous) [BV 44] Daughter has a Jeep Compass [BV 74] Son has a 2012 Jeep Wrangler [BV 74] 2017 Jeep Grand Cherokee (current) [BV 8, 9]	Drove many miles cross-state for his job [BV 26-27] 60-65 percent used for business vs. personal use [BV 27] No off-roading, hauling or towing [BV 27-28]	No [BV 39]
Waggoner, Jay	2014 Chrysler 300 [JW 5]	Possibly 10,000 before sold [JW 116]	February 2016 [JW 53]	Bought [JW 53]	Used [JW 50]	\$22,460 [JW 114]	Between February and June 30th, 2017 [JW 118] Or sold it eight months after they got it [JW 67]	2010 Dodge Challenger (previous) [JW 20] 2006 Ford F-150 (previous) [JW 78] 2008 Ford F-150 (previous) [JW 78] 2006 Dodge Ram [JW 60] Ford Focus (current vehicle) [JW 45] 2015 Dodge Charger RT [JW 120]	For pleasure, every day vehicle, not for business [JW 53-54]	--
Webster, Cameron	2014 Jeep Grand Cherokee [CW 10]	--	March 2013 [CW 35]	Bought [CW 35]	New [CW 35, 52]	\$33367.16 [Exhibit 3]	Still owns [CW 132]	2006 and 2010 Jeep Commanders (previous) [CW 35] 2015 Chevrolet Tahoe [CW 32] 2000 Dodge Dakota (previous) [CW 36] 2008(?) Jeep Grand Cherokee (previous) [CW 35] Wife has owned 4 to 5 Jeeps in the past 20 years [CW 36]	Wife is primary driver [CW 10] Wife uses Jeep for commuting 20 miles each way [CW 32]	He added backup camera to 2014 Jeep, had installed at dealer [CW 45-46]
Wells, Lindsey	2015 Jeep Grand Cherokee [LW 17]	23,598 when turned in [LW 133]	April 30, 2015 [LW 81]	Bought (lease not mentioned) [LW 81, 86]	New [LW 103]	\$42,001 [LW 82]	August 2017, traded for 2017 Grand Cherokee [LW 26, 130-131]	2017 Jeep Grand Cherokee, currently owned [LW 17] Two VW Jetta's previously [LW 18] VW Touareg before the Jetta's [LW 19] Jeep Grand Cherokee from 1996 to at least 2002 [CW 42]	She used the 2015 Jeep for personal use and sometimes business (once per month) [LW 30-31]	--
Yacoub, Wisam	2014 Chrysler 300 [WY 8]	141,000 as of June 28, 2017 [WY 120-121]	April 27, 2014 [WY 55]	Bought [WY 28]	New [WY 28]	\$29,487 [WY 32]	October 2017 [WY 121]	2003 Toyota Camry XLE (previous) [WY 19-20] 2005 Camry (previous) [WY 20] 2007 Toyota Avalon (previous) [WY 21-22] 2011 Toyota 4Runner (previous) [WY 22-23] 2015 Cadillac XTS (current) [WY 26-27]	Personal use [WY 32]	--

Guy v FCA  
 Plaintiff Testimony Summary  
 Appendix H

Vehicle Background Information										
Plaintiff	Vehicle	Current Mileage	Date Purchased	Bought or Leased	New or Used	Purchase Price	Date Traded in/Sold	Other Vehicles in Household/Prior Vehicles	Uses for Vehicle	Vehicle Modifications
Youngstrom, Scott Michael	2012 Dodge Charger [SY 9]	--	December 10, 2011 [SY 135]	Bought [SY 135]	New [SY 135]	\$29,497 [SY 209]	Still owns [SY 11-12]	1986 Ford Crown Victoria (previous) [SY 81] 1993 Toyota Corolla (previous) [SY 88-89] Nissan Maxima [SY 76] Ford F-150 [SY 108]	Drives to work three times a week [SY 42]	No [SY 199]